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THE UNITED STATES AND JAPAN.

A LEADING British trade journal has established at Tokio a Japanese edition, with a view to profiting from the increased English trade in that direction which the enterprising editor sees in prospect. It is reported that a German newspaper has also been started in Japan for the purpose of advertising German manufactures there. While neither of these facts is startling, they are worth noting as illustrating the spirit of German and English commercial activity,—never so great as now,—wherever there is a promise of new markets. These countries are realizing that the old conquests by the sword were insignificant compared with the victories of commercial enterprise which are now upbuilding the greatness of nations.

A timely question is, what does the United States propose to do toward extending trade with the growing Japanese nation? There is no longer any excuse for our ignoring the existence of Japan, since the recent war in which she triumphed has advertised to every intelligent person the qualities of her people and of the resources which fit them for an important place among commercial nations. There are many reasons why the United States should be first among outside nations in taking advantage of new conditions in trading with Japan. We were first to open to that country the intercourse with the outside world which has led to her adoption of modern ideas. The Japanese have never feared that close relations with the United States would be followed by such attempts at control on our part as might have been made by certain powers in Europe. But, before all, Japan lies only across sea from our own Golden Gate, whereas every European nation must cover two or three times the distance, by ship or rail, to reach her ports. All the advantages of Japanese sentiment are on our side. While it is true that sentiment will lead no people to pay \$2 for goods in one country when they can be bought for \$1 in another, it cannot be doubted that a friendly feeling between two nations is helpful in the extension of trade relations one with the other. Japan's written constitution has borrowed not a little from our own; many Americans have been invited to Japan to give her the benefit of our ideas and institutions; and many young Japanese have been educated in American universities in order that they might imbibe some of the spirit of our civilization. Friendly advantage ought to be taken of every one of these facts in building up trade relations between our country and theirs. Yet how many ships under the American flag cross the ocean between us? How many American manufacturers or merchants have branches or resident agents in Japan? How many dollars of American capital are invested in banking in Japanese centers? Why we cannot even send a telegram to the far east except by way of the Atlantic and across the Eurasian continent. Our news of the late war traveled 14,000 miles before touching American soil, and 17,000 miles before reaching the San Francisco newspapers—separated only by a single ocean from the scene of the fighting. There is no excuse for such a situation—unless it can be proved that the United States cannot build ships, or manufacture

goods suited to Japan, or has no capital to expend for building an ocean cable. Then, of course, we would have to be content with our home trade, and leave to the plodding merchants of effete Europe the new markets developed from time to time by the modernizing of the East.

We do not believe that the American people are really indifferent to the subject of a wider trade; they only take hold of the matter in the wrong way. We fought once for independence from the rule of a king and at once became slaves to the fetich we call congress, and now our people who want anything new done wait until congress takes a vote. Thus after we had enriched the Welsh tin-platers for a century, under the idea that tin-plate couldn't be made here, our iron men consented to engage in the industry if congress would vote a protective duty. That was done, and some mills were started; almost immediately, however, the protective duty was removed, and not only have the tin-plate mills gone on, but their number and the extent of their work have become enormously increased, showing that all the while it was only necessary, if we really wanted to make tin-plate with home metal and home labor, to go ahead and make it.

It is the same with Japanese trade, or any other foreign trade; if we want it we must work for it. There is no more reason in waiting upon congress or upon our consuls in such a matter than there would be in asking President Cleveland for permission to put up an umbrella when it rains. The Germans get ahead without depending upon the powers at Washington to open the doors of Japanese trade to them, and shall we be less self-reliant than the Germans? We need a new declaration of independence—a resolution to become free from the superstition that our fortunes depend upon the will of congress.

It must be considered, however, that a new business in a foreign country will not pay largely at the outset, any more than a new business at home. In fact, profits must be longer in coming, for experience must be paid for as it is gained. Opportunities at home are still numerous in proportion to our population, and many young Americans of talent and enterprise would not be tempted by such returns in trade as would lead Europeans equally well equipped to the uttermost parts of the earth. If the dollars now seem more easily picked up in New York than in Yokohama, or if our young merchants prefer keeping in touch with Newport and its gayeties to a few years of exile in Buenos Ayres, that of course is their own business. But there can be no doubt that in time the importance of the great nations of to-day will be affected by the extent of their interests across the Pacific, in South America, and even up the Kongo, and the relative position of Americans will then depend more or less upon the enterprise which they may have displayed in getting a foothold in these now out-of-the-way countries.

UNUSUAL SHRINKAGES OF CRUDE RUBBER.

THE question of shrinkage is one that vitally concerns all purchasers of crude rubber. Every factory that claims to be at all systematic has a carefully tabulated

series of records, showing the weights on receipt of rubber before washing, and after its return from the drying room, just previous to massing. Expert buyers will tell what the loss will be in Fine Pará, Centrals, Africans, etc., and that with great accuracy. It sometimes happens, however, that lots of rubber that contain but a normal amount of moisture and are quite free from dirt, show an abnormal shrinkage. In many cases the reason for this is never apparent. It may be of interest, however, to mention a few instances where a cause has been found for this trouble and also a remedy.

In example number one a large manufacturer who was harrassed by an abnormal shrinkage of his Fine Pará, was one day approached by a local junk-dealer, who offered for sale a quantity of Pará hams that he had purchased. The manufacturer bought without question, but at once began to investigate. In the course of a week he learned that one of his teamsters was very apt to unload cases of rubber so energetically that they burst open, and one or two hams found their way to a distant corner of the yard and soon after disappeared. A word of caution to the teamster resulted in his seeking other fields as an outlet for his surplus energy and since then the percentage of loss has been normal.

Example number two is the case of a worthy superintendent who was bewildered by the cost of his dry rubber. A bit of gossip came to him one day concerning a manufacturer of a certain specialty near him, who rarely bought rubber and who made goods very cheaply. A bit of detective work revealed the existence of a sort of partnership between the small manufacturer and one of the employés of the superintendent. A little suasion, moral and otherwise, resulted in a dissolution of that firm, the specialty shop was shut up and the first cost of crude rubber dropped to where it belonged.

A third example is cited by one of the ablest manufacturers in the country. His Fine Pará showed far too much shrinkage. For a long time he searched for the leakage and could not locate it. At length, purely by accident, he discovered that one of his most trusted men, being affected by rheumatism of the heart, was in the habit of wrapping a sheet or two of rubber from the drying room around his body under his clothes, to keep out the cold, wearing it home and forgetting to wear it back again. He took two years in a public institution at hard labor as a panacea and is said to be cured. At all events the rubber shrinkages are right again. If there is any truth in the saying "What has been will be again," it behooves rubber manufacturers to so guard their crude material that shrinkages of the kind cited will be impossible.

THE Imperial Rubber Co. (New York) lately sold, through Manager George E. Austin, a 72-inch, 3-ply Munson leather belt, 118 feet long and weighing 2100 pounds. It was purchased by the Brooklyn Heights Railroad Co., for their powerhouse. The same company had previously bought through Mr. Austin two other Munson belts of similar dimensions. The Imperial company have just filled the largest order for suction-hose, for dredging purposes, ever received by them. Some of the hose was 12 inches in diameter.

SHODDY OR PURE GUM IN TIRE COVERS.

The Tire Repairer Talks.

MY friend the Tire Repairer was a positive man and believed that he knew all about tires.

"They are putting mud into them," he was wont to say, "that's what's the matter. Now, if they would make them of Payraw rubber and nothing else you would see a difference in them."

"No sulphur?" I inquired gravely.

"No, sir; nothing but just rubber in its pure state, and then you would have resiliency and wear both."

Now, the Tire Repairer was an honest man, who could mend bicycles and stop punctures as well as any, little though he knew about rubber. His attitude set me to thinking, and the result of my thought was the attempt to explain to him and his ilk something about the nature of the rubber that is found in the covers and tubes of tires.

The fact that he, with the world at large, believed that rubber is melted together with asphaltum and a variety of such substances had bred so genuine a contempt for anything in rubber that they were far from reasonable. Nor is it easy to make them understand that rubber is not melted in its manipulation, and still harder to impress upon them that the ingredients that are added to rubber are far more likely to add to its life than they are to enhance its cheapness. Yet this is so.

"A feller told me," said my Tire Repairer, "that there hadn't been a thousand pounds of Payraw rubber brought into this country in the last ten years. Folks send out peddlers and pick up the old rubber shoes, that's made mostly of coal tar and lampblack, and they melt them up and work that old stuff off on us in tires and coats and other things."

And thus, as I recall my conversation with one of a great and growing class, is the shoddy question thrust upon me. The "feller" was wrong about the importations of Pará by many, many millions of pounds, of course, nor was he wholly right about what the peddlers pick up. They do gather old rubber boots and shoes, but they don't find any made of coal tar and lampblack, for such do not exist. Nor are they melted up and used over. Instead, they are sorted, washed, torn to pieces, the cloth removed, the iron and brass taken out, the dust and sand eliminated, and finally the good rubber that was first put into the boot or shoe is removed from all else and in the trade terms is recovered. So skilfully is this done that it is practically the same as the raw gum mixed ready for use. Now, this being the case, why should it not be used? As a matter of fact it is not quite as strong as the new compounded gum, and therefore fresh gum is mixed with it, and some of the strongest and best goods contain a certain proportion of it.

So much for the shoddy bugbear. I thought my explanation had settled and straightened my friend, but he shook his head.

"They put it in for cheapness," he said, "when they know there is better stuff to use."

"But surely this recovered rubber has in it more virtue than many adulterants used. It is more elastic for instance than whiting, or oxide of lead," said I.

"Yes, yes, but why use *anything* but rubber? Why not have the covers pure? People will pay for it."

At last I saw the difficulty under which he was laboring and to show him why rubber men used anything but rubber and sulphur I gave him the following illustration: A certain mining concern were in need of a short conveyor-belt that should do quite a number of different things that only one made of rubber could be expected to do. They had not been able to secure a rubber belt, however, that would last more than a day or two, the wear was so great. An ambitious young rubber manufacturer therefore started in to solve the problem of wear. In the first place he made a small wooden cylinder that should be so placed that it would receive exactly the same kind of wear that was so destructive to belts. This for a first experiment he covered with pure Pará rubber, the finest old "up river" cured in a slow heat, with only just enough sulphur to do it. The result looked and felt splendidly. It was as soft as velvet and elastic, and resilient almost beyond belief. This he put upon the cylinder and started it running. To his disgust it lasted but two hours when it was fairly torn and worn to shreds.

After this he tried whiting, lead, barytes, infusorial earth, asbestos, and various fibers in his rubber and while he had a fair degree of success, all of them outwearing the pure gum, he was not able to get anything that would stand. Finally by accident he combined an earth with a mineral oxide, and behold he had so tough a compound that it wore for months. In dollars and cents it cost less than one half of what the pure gum did, yet it was infinitely more valuable. Now in tire covers the same kind of problem is met. Manufacturers do not use strictly pure rubber because it would wear away and tear away quicker than a gum that has some ingredient added to it, that while it does not injure its resiliency, does prevent too rapid a wear.

All this I explained, saying further, "Do you know that only a few concerns use this recovered rubber in tires anyway, and that none of them use coal tar in any form? Further than this do you know that the tire men have as a rule tried to make the best wearing compounds that skill or money could produce?"

"I should like to see tests that would prove that," he answered with a look of absolute unbelief.

Now that was the very answer that I expected and I was all loaded for it. I called to his remembrance the fact that for some months past he had been securing for me sections of tire covers that came his way of a variety of makes well known and otherwise. I told him *sub rosa* that

a friend of mine, a chemist, had been at work on them for some time, and as a clincher I bore him off with me to the laboratory where he looked the samples over, and the chemist explained to us his methods. Many of them of course were such that technical knowledge would be required to understand, but being a man of sense he gave to the Tire Repairer some very useful hints, that I observe he keeps in mind about his work. For example, the chemist remarked that shoddy could always be detected by its odor, and at the same time to guard against misconception he brought out a piece of reclaimed rubber and a piece of crude African gum and illustrated the difference in odors. He showed his pupil how to strip the rubber off of the fabric and to stretch and break it and look at the cleavage of the break for signs of "oil substitute." He initiated him into the specific gravity idea of dropping a bit into water and seeing whether it sank, and how rapidly it sank, while pure rubber just floated. He taught him to burn the rubber and to smell the smoke during combustion and finally to judge of the ashes the amount of adulteration practiced by the manufacturer. And the Tire Repairer was charmed, fascinated by the whole matter.

At the end of the lesson he went back to his work a proud and wise man, at least so he appeared, and for a week or two he put his new found knowledge to constant use. At the end of that time he said:

"Say, I was a fool when I said that the tire men didn't use any Payraw rubber. I knew all the time that I was getting good tires as well as bad ones, and I can tell them apart now too."

"Oh, the points that the chemist gave you are valuable, then?" I inquired.

"Oh, yes, they are all right if I had the time for them and the right apparatus to use handily, but I've got a quicker and better way of my own."

"What is it?"

"That's just what I am afraid I can't explain," he said honestly. "It came to me all of a sudden the other day. I was handling some tires and I found that I could tell by the feel of my finger ends just what were good ones and what were not as good. To make the matter sure I went up to the chemist with some samples and told him what I thought of them, and he said I was all right and had 'finger wisdom' that was far more practical for me than anything that he could give me. At the same time," he continued, "what is to be the future of a business where it is possible to run in so many different things all of which will readily pass for good rubber. I may be able to tell to an extent a good rubber by my finger knowledge but I shall be fooled sometimes, and those who don't know as much as I stand a chance to get fooled all the time."

"There is of course a danger that any kind of rubber goods may be so injured by cheapening and adulteration that users become disgusted and substitute something else. The history of the rubber business shows this. There are those who claim that to-day rubber car springs would be in use under all cars had it not been for the constant cheapening of the goods and the consequent lessening in value until steel springs were substituted. However this

may be, the largest manufacturers are on their guard and have so far steadily refused to cut down the quality of their goods. More than this they have tried to impress upon their trade the difference between the good and the bad and to an extent have succeeded."

"Then the thing for a man to do is to tie up to an honest manufacturer who makes a good tire and take his word for the goods rather than try to become as expert as he is in rubber" mused the Tire Repairer sagely.

GUTTA-PERCHA FROM DRIED LEAVES.

A NEW enterprise that it is claimed will largely increase the output of Gutta-percha, is the collection and export of the dried leaves of the Gutta tree. At first a few small packages of leaves were forwarded to Paris and once there an excellent quality of pure Gutta percha was extracted, the leaves yielding from seven to ten per cent. of their weight of the manufactured article. Mons. F. Hourant, who sent the leaves to France, after some difficulty succeeded in getting the natives to work systematically at the collection of the leaves and now they are being exported in quantities which increase from month to month. He has erected a factory at Kuching for the purpose of thoroughly drying these leaves before shipment. The advantages of this method are evident. The natives formerly cut down a tree to obtain the sap and from this, if it were an adult tree twenty-five to thirty years of age, there was obtained one catty of pure dry Gutta. Fully as much can be obtained from two pluckings of the leaves of the same tree without injuring it, for it will long continue to put out fresh foliage and what is more important, will live to seed and reproduce its species. This is an important point as the best Gutta trees do not bear fruit until thirty years of age. The Gutta obtained from the leaves is also pure and dry which is much more than can be said of the ordinary Dyak Gutta. The millions of trees that have already been destroyed by the native gatherers are also still of service as their stumps have sent out numerous small shoots and though these are too small to be tapped their leaves are as good as those of the adult tree.

WHERE THE GUTTA-PERCHA GOES.

THE total length of all the submarine cables laid up to the present time, according to one of the electrical journals, is about 157,713 nautical miles. "Most of these cables have only one core, but some have two or more. The total length of core in the cables is about 166,900 nautical miles. Of this length 165,000 is insulated with Gutta-percha and 1900 with India-rubber. The approximate weight of Gutta-percha used in the insulation is 23,000 tons for the 166,900 miles. The approximate weight of India-rubber is about 152 tons. Besides the submarine cables, there must be some 100,000 nautical miles of cables laid by various governments and states for military defense. The longest stretch of cables are, of course, those running across the Atlantic to North and South America, and the shortest across the English and Irish channels, and between Java and Sumatra and Athens and Corinth." According to this estimate, all the Gutta-percha produced in the world during the past seven years would hardly have sufficed for the demands of cable-builders, even if all of it had been of first quality. But when it is considered how much of the Gutta-percha of commerce is of too low grade for ocean cables, one can judge of the large part of the world's production of good Gutta that has been buried under water.

HOW GOODYEAR BECAME A RUBBER INVENTOR.

THE ruinous failure of the earliest American rubber-manufacturers, says a writer in the *Boston Commercial Bulletin*, arose from the fact that they began their costly operations in ignorance of the qualities of the material which they had to deal with. No one had discovered any process by which India-rubber once dissolved could be restored to its original constituency, and the importance of this item was overlooked until many men had been ruined.

It was in the year 1810, the same writer continues, that a pair of India rubber shoes was seen for the first time in the United States. They were covered with gilding, and resembled in shape the shoes of a Chinaman. They were handed about in Boston only as a curiosity. Two or three years after, a ship from South America brought to Boston 500 pairs of shoes, thick, heavy, and ill-shaped, which sold so readily as to invite further importations. The business increased until the annual importation reached half a million pairs, and India rubber shoes had become an article of general use.

The manner in which these shoes were made by the natives of South America was frequently described in the newspapers, and seemed to present no difficulty. They were made much as farmers' wives made candles. The sap being collected from the trees, clay lasts were dipped into the liquid twenty or thirty times, each layer being smoked a little. The shoes were then hung up to harden for a few days; after which the clay was removed, and the shoes were stored for some months to harden them still more.

Nothing was more natural than to suppose that Yankees could do this as well as Indians, if not far better. The raw India-rubber could then be bought in Boston for five cents a pound, and a pair of shoes made of it brought from \$3 to \$5. Surely here was a promising basis for a new branch of manufacture in New England. It happened, too, in 1830, that vast quantities of the raw gum reached the United States. It came covered with hides, in masses, of which no use could be made in America; and it remained unsold, or was sent to Europe.

Patent leather suggested the first American attempt to turn India-rubber to account. Mr. E. M. Chaffee, foreman of a Boston patent-leather factory, conceived the idea, in 1830, of spreading India-rubber upon cloth, hoping to produce an article which should possess the good qualities of patent leather, with the additional one of being waterproof. In the deepest secrecy he experimented for several months. By dissolving a pound of India-rubber in three quarts of spirits of turpentine, and adding lampblack enough to give it the desired color, he produced a composition which he supposed would perfectly answer the purpose.

He invented a machine for spreading it, and made some specimens of cloth, which had every appearance of being a very useful article. The surface, after being dried in

the sun, was firm and smooth; and Mr. Chaffee supposed and his friends agreed with him, that he had made an invention of the utmost value. At this point he invited a few solid men of Roxbury, Mass., to look at his specimens and listen to his statements. He convinced them. The result of the conference was the Roxbury India-Rubber Co., incorporated in February, 1833, with a capital of \$30,000.

The progress of this company was amazing. Within a year its capital was increased to \$240,000. Before another year had expired, this was increased to \$300,000; and in the year following, to \$400,000. The company manufactured the cloth invented by Mr. Chaffee, and many articles made of that cloth, such as coats, caps, wagon curtains and coverings. Shoes made without fiber were soon introduced. Nothing could be better than the appearance of these articles when they were new. They were in the highest favor, and were sold more rapidly than the company could manufacture them.

The astonishing prosperity of the Roxbury company had its natural effect in calling into existence similar establishments in other towns. Manufactories were started at Boston, Framingham, Salem, Lynn, Chelsea, Troy, and Staten Island with capitals ranging from \$100,000 to \$500,000; and all of them appeared to prosper. There was an India-rubber mania in those years similar to that of petroleum in 1864. Not to invest in India-rubber stock was regarded by some shrewd men as indicative of inferior business talents and general dullness of comprehension.

The exterior facts were certainly well calculated to lure even the most wary. Here was material worth only a few cents a pound, out of which shoes were quickly made, which brought \$2 a pair! It was a plain case. Besides, there were the India-rubber companies, all working to their extreme capacity, and selling all they could make. Such were the conditions of the trade when Charles Goodyear visited the New York office of the Roxbury Rubber Co. to suggest some improvements in inflating a life-preserver manufactured by the company. To his surprise the agent took him into his confidence and explained that the prosperity of all the India-rubber companies in the United States was only apparent; that they needed the aid of an ingenious inventor to save them all from ruin.

The Roxbury company had manufactured vast quantities of shoes and fabrics in the cool months of 1833 and 1834, which had been readily sold at high prices; but, during the following summer, the greater part of them had melted. Twenty thousand dollars' worth had been returned, reduced to the consistency of common gum, and emitting an odor so offensive that they had been obliged to bury it. New ingredients had been employed, new machinery applied, but still the articles would dissolve. In some cases, shoes had borne the heat of one summer, and melted the next. The wagon covers became sticky in the sun and rigid in the cold.

The directors were at their wits' end; since it required

two years to test a new process, and meanwhile they knew not whether the articles made by it were valuable or worthless. If they stopped manufacturing, that was certain ruin. If they went on, they might find the product of a whole winter, dissolving on their hands. The capital of the company was already so far exhausted that, unless the true method were speedily discovered, it would be compelled to wind up its affairs.

The agent urged Mr. Goodyear not to waste time upon minor improvements, but to direct all his efforts to finding out the secret of successfully working the material itself. The company could not buy his improved inflator; but let them learn how to make an India-rubber shoe that would stand the summer's heat, and there was scarcely any price which it would not gladly give for the secret.

The worst apprehensions of the directors of this company were realized. The public soon became tired of buy-

ing India-rubber shoes that could only be saved during the summer by putting them into a refrigerator. In the third year of the mania, India-rubber stock began to decline, and Roxbury itself finally fell to \$2.50. Before the close of 1836, all the companies had ceased to exist, their fall involving many hundreds of families in heavy loss. The clumsy, shapeless shoes from South America were the only ones which the people would buy. It was generally supposed that the secret of their resisting heat was that they were smoked with the leaves of a certain tree, peculiar to South America, and that nothing else in nature would answer the purpose.

The \$2,000,000 lost by these companies had one result which has proved to be worth many times that sum; it led Charles Goodyear to undertake the investigation of India-rubber. That chance conversation with the agent of the Roxbury company fixed his destiny.

THE TRADE IN FANCY ATOMIZERS.

IN the manufacture of fancy atomizers the Americans first got their ideas from Europe, though the home production soon outranked the import trade in goods of this class. One important reason was due to the fragile character of the goods, leading often to heavy losses in crossing the ocean. There are still a few houses in the trade which claim a certain *prestige* from dealing in imported goods, and now and then a retailer, in stocking a new store, will exhibit with pride a line of imported atomizers and kindred fancy goods. Our manufacturers assert, however, that when it comes to replenishing their stocks these new dealers are very apt to buy American wares. They thereby not only escape the losses by breakage from ocean transit, but orders can be filled so much more promptly from this side of the ocean, and smaller lots may be had to fill sudden gaps in a line which it is desired to keep complete. The perfect atomizer, it is safe to say, is yet to be invented. Practically the only change exhibited in the so-called new atomizers brought out from time to time is in their external appearance. But the new article, if well talked up, is pretty sure of at least a trial wherever offered. Often the retailer really knows nothing about the merits of an atomizer,—or the lack of merit,—only knowing that complaints are made by his customers, and he is easily induced to try a new line, in the hope that the customers will thenceforward be pleased. It is asserted by a leading manufacturer that nothing new in atomizers has come out lately, and that one excels another only with respect to workmanship—all embodying principles which date practically from the beginning.

Atomizers are gradually going away from the rubber trade, according to another manufacturer, whose experience extends back fifteen years. Formerly they were to be found chiefly in the regular rubber houses, but now, he says, 90 per cent. of his sales are made through other channels, and chiefly, of course, through the drug trade. As soon as the demand for atomizers became important, and the druggists saw an opportunity to make a profit in

handling them, they became a feature of the drug trade. On the other hand, the tendency of the regular rubber houses is toward the heavier lines of goods, and this is true even to a greater extent in the west than in the older houses in the east, according to the manufacturer last quoted. By the way, his house had visits from four rubber-goods dealers on the day on which the above views were expressed, all purchasing fancy goods. They were from New England towns.

When asked about the tendency of the trade with respect to the position of the jobber or middleman, a manufacturer of atomizers said that he had no desire to see the jobber disappear. The majority of the retailers in goods of this class buy in small quantities, and the satisfaction in selling in larger quantities to a limited number of jobbers, and avoiding the necessity of collecting a great many small bills, fully compensated for the jobber's profits. He said that whereas he had only atomizers to sell to druggists—many of whom might not want more than \$20 or \$50 worth at a time—the jobber sold atomizers together with the whole line of druggist's supplies, so that the jobber's expense of distributing atomizers was less than that of the manufacturer would be in reaching the same customers. At the same time the jobbers, being scattered over the country, could keep better in touch with the conditions of the retail trade, and especially with respect to the giving of credits, which gave them an advantage over the manufacturer. Whatever might happen in other branches of the rubber trade, especially in the handling of the heavier lines of goods, he felt that the jobber would long be the medium for distributing specialties. His own house declined to deal with retailers whose orders amounted to less than \$200.

THE India-rubber pavement laid in front of their Edinburgh offices by the North British Rubber Co., Limited, about which they wrote some five years ago that it was merely an experiment, is reported to be practically as good as new, and not to have suffered appreciably from the weather.

THE GROWING RUBBER-STAMP INDUSTRY.

By Gustav Heinsohn.

WHILE a single rubber stamp may appear insignificant, and its cost a trifle, the trade in goods of this class has reached a very large aggregate and become a source of profit to a great number of persons. It is the most widely distributed of all the branches of rubber manufacture, geographically speaking. One must consider that when the business man of Nagpur or Melbourne or Rio de Janeiro or Bankipore uses a rubber stamp it is not due to that article having reached him by accident from a distant country; the letters have been molded and the stamp vulcanized in a shop in his own city. The United States is the home of the rubber stamp, and the largest production of such goods is still to be found here, but there is no export business to speak of. The most that can be done in the direction of foreign trade is to operate through foreign branches, or to arrange for the collection of royalties from manufacturers abroad under American patents. But rubber stamps are made and used already far beyond the limits of patent protection—that is, in countries without patent laws.

How many rubber stamps are made or used is past finding out. It is safe to say that few up-to-date business men have not sometimes a use for a rubber stamp, while in a single office hundreds of different stamps may be used. One needs only to look at the bank-checks which pass through any large business house every day, with their stamped indorsements, and often with stamped signatures, to gain an idea that an enormous number of stamps must be in use. By the way, the banks are among the most valuable customers of the rubber stamp manufacturer. Two years ago the Chemical National Bank of New York, it is said, gave one order for 7000 rubber stamps, though of course this was exceptional, the occasion being a monetary panic when clearing-house certificates were issued and very much unusual work was necessary in conducting the banking business. Insurance and other companies having a great number of agents, patent-medicine manufacturers whose compounds are sold through thousands of dealers, and many other concerns have rubber stamps made for their agents, whose names are stamped on the advertising matter which is pouring ceaselessly through the presses. Printing the names of agents on circulars, cards, etc., with type, which would have to be changed for every name, would be much more expensive.

Like most things which have any value at all, the rubber stamp has been improved from time to time until it is now capable of many more uses than at the beginning. On account of a new feature which will be described further on, the rubber stamp is coming into use for lettering boxes and packages, instead of the old-fashioned stencil-plate, with the result of saving a great deal of time, besides securing a better label in many cases. Where a merchant ships goods frequently to the same customer,

a rubber stamp can be obtained for marking packages with the customer's name and address, with far greater satisfaction than from the use of marking-pot and brush. As rubber stamps are now manufactured, there is a steady increase in practicable sizes. "Hand-stamps" 10×14 inches are now advertised, and they have proved as satisfactory in use as the one-line stamp with which the name of a corporation is affixed to a bank check over the treasurer's signature. Nor are these stamps confined to the printing of letters or figures. One of the big typewriter companies recently had a 10×12-inch rubber stamp made, embracing a good representation of their machine, made from a photograph, and this is stamped on the boxes in which the machines are sent out to the trade.

The trade in rubber stamps has been not a little stimulated by the invention of the pneumatic feature, by which the stamp is rendered flexible. The advantage of the improved stamp is that it will print on any surface, whether flat, uneven, concave, convex, or yielding, such as paste-board boxes, packages prepared for the mails, etc. It is due to the flexible feature, indeed, that the large sized rubber stamps above referred to have come into existence, since the stamps formerly made could be satisfactorily used only on surfaces that were exactly level and uniformly smooth.

In the manufacture of rubber stamps a form of printing type is set up, styles of letter being selected such as it is desired to reproduce in the rubber, and a cast of the type-faces taken to serve as a matrix or model for the rubber. When the mold has hardened sufficiently a sheet of unvulcanized rubber is forced into it by hydraulic or other pressure, with the result that, when the rubber is removed, it presents a facsimile of the type-metal letters. By vulcanizing the rubber its quality becomes fixed, and the letters retain their form permanently. The cementing of the rubber letters to the handle or "mount" is done with some preparation the nature of which is usually guarded as a secret. The manufacture of the air-cushion mount involves an interesting feature. There is first secured a rubber sheet or cushion, on one side of which is a series of cells, similar in appearance to a piece of honey-comb, except that the cells are square or oblong, instead of hexagonal. These are the air-cells, and they will be probably $\frac{1}{4}$ inch deep and as large square, though various sizes are used for different kinds of work. The printing surface, or rubber die, is first securely cemented upon the back or closed side of a sheet of the cells. The opposite, or open side is then hermetically sealed by cementing it to another flat piece of rubber, or direct upon the stamp-handle base, thus forming air tight compartments which, under pressure, give flexibility to the printing surface and allow it to conform to any surface on which it is desired to print. The advantage of having a number of small cells is that the delicate separating walls all assist in supporting the

rubber printing-surface and giving it the necessary firmness. Besides, if a few cells should in time become broken, the stamp will not thereby lose its form. Unlike the pneumatic bicycle-tire, the pneumatic rubber-stamp is not rendered useless by a puncture, since the inflation or distension of the cells is not necessary to render the stamp effective.

Closely related to the rubber-stamp trade is the manufacture of solid rubber type. There are many cases where it is desirable to change frequently the matter to be printed, or stamped, and for this reason a demand has grown up for rubber letters which can be rearranged as often as desired. Formerly the frames or mounts into which were inserted the feet of the rubber type—so to speak—were provided with thumb-screws for holding them in place. Too frequently, however, such screws were apt to be tightened so far as to compress the types, resulting in bad work in printing. An improvement was devised to overcome this, by means of which each letter, as it is put in place, is compressed with a pair of pincers, the base of the letter expanding and filling the socket completely as the pressure of the tool is removed. Thus the letters are prevented from falling out of the handle. But the chief improvement in connection with rubber-type work has been in the adaptation to it of the pneumatic mount, so that a form of rubber-type is now used precisely as a flexible hand stamp would be.

RUBBER STAMPS AND THE POSTAL LAWS.

AN order lately issued by the post-office department at Washington is to the effect that hand-stamped alterations of or additions to price-lists, invoices, catalogues, or other forms of the same nature, as well as like changes in circulars or other printed matter, converting the same into orders for goods or making any announcements of the character of a personal communication, are held to be equivalent to writing or typewriting, and will therefore subject the matter upon which they may be impressed, when mailed, to the letter rate of postage. Mere business cards, however, or other hand-stamped additions clearly of an advertising character, may be impressed upon third-class matter without subjecting it to the higher rate of postage.

A PLEASANT SURPRISE.

ON Thursday evening, Aug. 22, a party of gentlemen gathered in the Cunard Café, Boston, to congratulate Mr. John W. Prescott upon his having received the full Knight Templar degrees. A substantial repast was served with the proper liquid accompaniments, an orchestra discoursed fine music, there were stories, jokes, and speeches, in fact a general good time. The crowning surprise of the evening however came when Chief Crocker, of Lynn, in a very happy speech presented a handsome Masonic charm, the gift of business friends in and about Boston. Mr. Prescott had hardly accepted this in a speech full of feeling when Mr. Fred. Alden, in behalf of the Boston Belting Co., presented him with a beautiful Templar ring. Many men prominent in the rubber and kindred trades were present, and others who were out of town sent regrets. The party adjourned some time after midnight, the general expression being that men never had a better time.

NEW TRADE PUBLICATIONS.

THE new Beardsley art cult has been invoked by the Boston Rubber Co.—who are nothing if not “up-to-date”—to render the cover of their new catalogue of mackintoshes attractive. Inside seven full-page engravings of as many styles of their “Bell brand” men’s coats reveal the best type of the pictorial art. These illustrate the “cape coat,” “Lord Chumley,” “Chesterfield,” “Rialto box coat,” “Harvard box coat,” “driving box coat,” and “ulster.” The receipt of such an attractively gotten-up catalogue cannot but prepare the trade for garments which shall be equally pleasing to the eye, to say nothing of more substantial qualities. Besides men’s and women’s mackintoshes, the Boston Rubber Co. make boots and shoes, rubber-surface clothing, carriage and horse goods, protective covers, wringer-rolls, and miscellaneous goods. For each of these they issue separate catalogues, which they furnish gratis upon application.

—Rubber horse-shoe pads have become so important a feature of the trade in blacksmith’s supplies that Vought & Williams, important iron merchants at Nos. 363-367 Greenwich street, New York, have issued a catalogue devoted to such goods alone. It contains illustrations of twelve different rubber pads, all of American manufacture, and most of which have been described in THE INDIA RUBBER WORLD.

—The Davidson Rubber Co., Boston, issue three well illustrated booklets each treating of a superior specialty. The first is devoted to those most important members of a community, the babies, and tells how they shall be fed. The Davidson Nipple is shown to be the most excellent food-conveyer to the mouth of the infant yet devised. It is always made of fine Pará rubber; if black, of absolutely pure gum, if white or maroon, it is compounded of pure materials. All kinds which they make are perfectly pure and healthy to take into the mouth. Dr. Wood, Prof. of Chemistry in Harvard Medical College, having carefully tested them, pronounces them pure and harmless.

Booklet Two, also illustrated with fine cuts, treats of Davidson’s Rubber Syringes of every description. The enterprising firm claim,—indorsed by distinguished medical authority,—that “Davidson Rubber Co.” stamped on any surgical or druggists’ goods means the best that brains and money can produce. The third gem of a brochure is devoted to the Davidson Atomizers, already widely known by physicians and the public. These atomizers are carefully made for service; some with metal tubes, others with tubes of rubber. They are useful on the toilet-table, in the sick room, for disinfecting, for throat, eye, and nasal affections, and for destroying insects on plants. The three booklets are well executed and fitted to be useful as guides to those purchasing the goods in their lines.

RUBBER MATS FOR THE PRESIDENT’S LAUNCH.

A SHORT time ago the daily press of the country devoted much space to a description and in some cases illustrations of a new launch which President Cleveland had purchased and taken down to Buzzard’s Bay. They did not however all mention the fact that the attractive perforated mats used aboard the new craft were furnished by the New Jersey Car Spring & Rubber Company of Jersey City, N. J. The Company received the order direct from Buzzard’s Bay and assume the President said, “I want new perforated mats for this new launch, and must have the best. The proper place to get them is the New Jersey Car Spring & Rubber Company.”

A GERMAN RUBBER-MANUFACTURERS' ASSOCIATION.

A CIRCULAR has recently been issued to the German rubber trade, bearing the signatures of ten important manufacturing concerns, announcing the preliminary organization of an association for the promotion of the rubber industry in that country, and requesting all others who are qualified for membership to coöperate with the movement. The practicability, and even the necessity, of such a union are referred to in the circular as being beyond doubt. As will be seen in the proposed "statutes" of the association, which follow, it will be seen that its scope includes all questions of common interest to the rubber-manufacturing trade, except the regulation of prices. Hamburg has been selected as the headquarters of the association, "on account," as the circular states, "of the disposition shown by the influential chamber of commerce of that place." It is announced that a call will be issued at an early day for a constitutional general meeting. The signers of the circular are:

VEREINIGTE GUMMIWAAREN-FABRIKEN HARBURG-WIEN (United Rubber Goods Factories of Harburg and Vienna), Harburg, a/E.
 HARBURGER GUMMI-KAMM-COMPAGNIE (Harburg Rubber Comb Co.), Harburg.
 CONTINENTAL-CAOUTCHOUC-&-GUTTAPERCHA COMPAGNIE, Hanover.
 GUMMIWAAREN-FABRIK VOIGT & WINDE, ACTIEN-GESELLSCHAFT (Rubber Goods Factory Stock Co., Voigt & Winde), Berlin.
 DEUTSCHE GUMMIWAAREN-FABRIK VORM. VOLPI & SCHLUTER, ACT.-GES. (German Rubber Goods Factory Stock Co., formerly Volpi & Schlüter), Berlin.
 HANNOVERSCHE CAOUTCHOUC-, GUTTAPERCHA- UND TELEGRAPHENWERKE, Linden-Hanover.
 HANNOVERSCHE ACTIEN-GUMMIWAAREN-FABRIK VORM. LENNARTZ & CO. (Hanover Rubber Goods Factory Stock Co., formerly Lennartz & Co.), Linden-Hanover.
 MUNDEN-HILDESHEIMEN GUMMIWAAREN-FABRIKEN GEBR. WETZEL, ACT. GES. (Munden-Hildesheim Rubber-Goods Factory, Stock Co., Wetzell Brothers), Hildesheim.
 RHEINISCHE GUMMI- U. CELLULOID-FABRIK (Rhenish Rubber and Celluloid Factory), Mannheim.
 SACHSISCH-BOHEMISCHE GUMMIWAAREN-FABRIKEN, ACTIEN-GESELLSCHAFT (Saxony-Bohemian Rubber-Goods Factory Stock Co.), Dresden-Löbtau.

STATUTES OF THE ASSOCIATION OF GERMAN RUBBER-GOODS MANUFACTURERS.

I. The object of this association is the advancement of the interests of the German rubber industry.

II. Only such rubber-factories can become members as produce hard or soft-rubber goods from the raw material. So-called "patent-rubber" factories are excluded.

III. The particular aims of the association are:

(a) To influence the laws of commerce and customs by opinions and petitions, both at home and abroad, in so far as they relate to the German rubber industry;

(b) Likewise the laws wherein they relate to manufactures;

(c) Likewise the labor laws, and the adjustment of labor questions in general, in all the factories;

(d) To make the contract system more lucid and concise;

(e) All other questions, relating to the rubber industry in general. Price conventions are for the present excluded.

The association will have its seat in Hamburg. Its plan of organization is as follows:

(a) The general meeting, which must take place each year no later than in March, in a city in Germany, for the purpose of rendering, receiving, and auditing accounts, and the election of the board of officers.

Special general meetings can be called by the board at any time, at the request of one-half the membership. The notices for such meetings must be sent by the board one week in advance of the meetings. In order to transact business, at least one-half of the members must be present, and the majority shall decide. Tie votes will be decided by the presiding officer. The constitutional general meeting will regulate the rate of dues and the number of votes.

(b) The board will be composed of five members, four of whom shall be from soft-rubber factories, the other to represent the hard-rubber factories. Only such members are eligible to the board as are either owners or directors of rubber-factories. At a general meeting proxy representation is permitted, but on condition that such is fully empowered on final action. Votes with provisos are not allowed. The board will elect from its members a president, vice-president, secretary, and treasurer. Meetings of the board will be at the call of the president; three members will constitute a quorum. Matters requiring immediate action can be voted on by letter.

(c) A secretary will be employed, who is to prepare all matters to be brought before the meetings; his residence must be in Hamburg. A contract is to be made with him by the board at the general meeting. The secretary shall report on all matters referred to him to the board, and keep himself posted on all happenings in the rubber industry, reporting the same to the board. When requested he shall attend the general meetings, and also the board meetings, and keep the minutes.

The annual dues will be fixed after the close of the first business year, which runs from January 1 to December 31; meanwhile an amount commensurate with the membership to meet the current expenses will be levied.

The statutes cannot be altered, or the association be dissolved, except by a two-thirds vote of the members present. Should the necessary number of members not be present at a general meeting, another meeting must be called four weeks later, at which the majority will rule, irrespective of the number present.

* * *

At the last general meeting at Gotha, of the United Hemp-Hose and Rubber-Goods Factories, it was resolved, on the recommendation of the board of administration, to increase the capital of the company by 310,000 marks, from 1,200,000, the former figure. The main purpose of such increase is for the purpose of taking over the Magdeburg Rubber-Goods and Belting Factory (Thiele & Günther). The transfer was ordered of shares of 310,000 marks par value, at the rate of 131, together with dividend from January 1 last, in payment to Thiele & Günther of the purchase price of 413,057 marks. The remaining 40,000 marks of the new issue of shares will be added to the working capital of the company. The "Vereinigte Hanfschlauch- und Gummiwaaren-Fabriken zu Gotha" resulted from the consolidation, on October 18, 1888, of the factories of Burbach Brothers & Co. (Gotha), Lange & Poehler (Arnstadt), Heinrich Wilhelm Warmuth (Dresden-Löbtau), and G. F. Simon's Successors (Dresden-Löbtau). The company manufacture mechanical rubber goods, but make a specialty of hempen hose. They own some valuable patents, and carry on a brisk export trade with Austria-Hungary and Roumania. The company lately reported a fairly good business for 1894, and it is now stated that the prospects for the current year's business are still brighter.

THE Tricycle Manufacturing Co. (Springfield, Ohio) have arranged for the patenting in England of the Rodgers rubber vehicle-tire, invented by J. G. Rodgers and described in THE INDIA RUBBER WORLD for May 10.

DEATHS IN THE RUBBER TRADE.

JAMES J. ESSEX, long well known in the druggists'-sundries trade, and one of the oldest citizens of Newport, R. I., died suddenly in that city, on August 15, of heart disease. He was born at Colchester, Conn., on February 1, 1817, and early in 1844 became a resident of Newport, where he was married in the same year. Soon after the introduction of rubber syringes and atomizers he engaged extensively in their manufacture and sale, carrying on business under the name of the Essex Manufacturing Co. He attained an enviable reputation as a business man of character, but with increasing age and failing health his trade declined to small proportions. In sending an order for materials to a New York house in August, 1894, he said: "The writer has not been well enough for the last three years to be from this city." Mr. Essex was the father of five sons and five daughters, and is survived by two sons, two daughters, and their mother.

* * *

THOMAS EARLE STUDLEY died in New York on June 2, from the effects of an apoplectic stroke. He was until recently one of the firm of the Studley Brothers, dealers in druggists' rubber goods, at No. 39 Westminster street, Providence, R. I. Mr. Studley was born at Worcester, Mass., in 1836, and spent his boyhood in that town. He went to New York to begin a business career, and in 1865 removed to Providence. In that year the senior member of the firm of Garfield & Eddy, dealers in druggists' sundries, retired from the business, his interest being purchased by John N. and Thomas Earle Studley, the firm style becoming A. C. Eddy & Studleys. In 1883 Mr. Eddy retired, after which the Studley Brothers continued the business together until about a year ago. Since the retirement of the subject of this sketch, John N. Studley has conducted the business alone. During his residence of thirty years in Providence Mr. Studley became valued as a citizen and member of society, and was called to many positions of trust. He was a member of the city council and of the school committee, and treasurer of the First and Union Baptist churches. While not in robust health, he had never shown any symptoms of cerebral trouble, and the attack which so suddenly closed his life came without warning. He leaves a widow and a son.

* * *

H. F. ROCKEY died at Indianapolis, Ind., on July 25. He occupied an important position in the solid rubber-type trade from its beginning, and was a successful business man. Several years ago he retired from business and went to California, returning to Indianapolis two months before his death in order to spend his last days among old friends.

* * *

JOHN C. N. GUIBERT, well known to the India-rubber trade from his invention of hose appliances, died at his residence in New York city on August 23. He was the inventor and sole owner of the "swinging hose-rack," his patent (May 13, 1884) covering other devices which swing, upon or within which hose may be laid or folded. Mr. Guibert was forty-one years old. He was a native of Cincinnati, but had spent the greater part of his life in New York, including the time at which his inventions were made. The interment was at Woodlawn cemetery. Mr. Guibert is survived by a widow and three sons. His patents have yet several years to run and it is probable that the business of manufacturing the swinging racks will be continued by a stock company, with Lyman D. Jones as manager. In addition to the business named above, Mr. Guibert was connected with the Vose & Cliff Manufacturing Co., of which he was secretary and treasurer. He was also secretary of the Harlem Club and otherwise prominent socially in Harlem.

GOOD CHANCES FOR RUBBER EXHIBITS.

THE carriage-builders' twenty-third national meeting, to be held at Cleveland next month, is likely to prove of even more interest to rubber-men than the preceding meetings. Last year, at Philadelphia, the exhibition of vehicles and accessories, and of materials pertaining thereto, embraced so many rubber displays as almost to center the attention of the visitors to this department. Since that time the interest in rubber tires and other rubber carriage-accessories has increased rather than diminished, and the coming exhibition at Cleveland may be expected to be even more complete in the department of rubber goods. The date of the meeting is October 15-17, but it is desired that exhibits shall be on hand a week earlier. By the way, the privilege of exhibiting is confined to members and associate members. Only carriage-manufacturers are entitled to full membership, but associates may be elected "from any trade or profession pertaining to the carriage trade." The secretary of the association is Henry C. McLearn, Wilmington, Del.

The Western National Cycle Exhibition—as the Chicago bicycle show will be called—will be held on January 4-11, in the Chicago Coliseum. Information for intending exhibitors may be had from N. H. Van Sicklen, manager, No. 334 Dearborn street, Chicago. Satisfactory arrangements are promised for prompt transportation of exhibits, at the close of the show, to the New York bicycle-show which immediately follows. As was the case last winter, it is probable that the rubber exhibits will prove the most interesting features at these shows.

A HELP TO OUR TRADE WITH MEXICO.

THE growing ascendancy of American interests in Mexico is likely to be advanced in no small degree by the recent establishment of a daily English newspaper at the capital of that country—*The Mexican Herald*. It is the first newspaper in Mexico supplied with telegraphic despatches on a liberal scale, the publishers having secured a contract with the Associated Press of this country, involving the establishment of a special telegraph line between the two republics. The editor is a former Boston man, Mr. Frederick R. Guernsey, who has done much important work as the editor of the *Mexican Financier*, with which he will remain connected. The head of The Seeger & Guernsey Co. (New York) expresses the opinion to THE INDIA RUBBER WORLD that the new paper will find many readers in the United States, in addition to the already large English-speaking population of Mexico, and that one effect will be to stimulate business relations between the neighboring countries. It is worth mentioning by the way that the Tehauntepec railroad has recently contracted for \$1,000,000 (gold) worth of supplies, all of which are to be purchased in the United States, although the contractors are an English firm.

CORRECTIONS ARE ALWAYS WELCOMED.

A LETTER has been received by THE INDIA RUBBER WORLD containing a correction of the price quoted for a certain transaction in crude rubber, in the August issue. The writer, who was a party to the transaction, concludes his letter: "We know that you are always most particular to report the market precisely as it is, and therefore draw your attention to this error." The receipt of such a letter is appreciated for two reasons—our desire to be set right if, for any reason, any mistake should occur, and because it is always gratifying to have evidences that the paper is carefully read in the trade.

BRIEF ABSTRACTS OF RECENT RUBBER PATENTS.

AMONG recent patents issued by the United States Patent Office, embodying applications of India-rubber or Gutta-percha to a greater or less extent, have been the following. It is not practicable here to do more than to note the use of rubber in each case, with sufficient detail to enable those who are interested to decide whether or not to look into any particular patent more fully:

TIRES.

No. 542,336.—Pneumatic Tire Fastener. Ernest L. Ferguson, Chicago, Ill.

In a pneumatic tire fastener composed of two series of plates pivotally connected with each other, a locking hook or hooks fastened to one series and so arranged as to hook over pins or studs in the opposite series in such a manner that the two series are held firmly together, when the hook or hooks are so attached.

No. 542,472.—Pneumatic Tire Valve. Edward O. Goss, Waterbury, Conn., assignor to the Scovill Mfg. Co., same place.

In a valve for pneumatic tires, the combination with a valve body comprising a head and a hollow shank, the former being externally threaded and containing an internally threaded circular chamber, and the latter opening into the inner end of the chamber; of an externally threaded annular plug located in the chamber, a packing washer located in the bottom of the chamber, and held in place by the plug which forces it against the bottom wall thereof, a valve proper located within the inner end of the hollow shank, bearing against the washer, and constructed with a stem which passes outward through the central opening of the plug, an adjusting nut applied to the outer end of the valve stem, and bearing against the outer end of the plug, a spring located in the hollow shank, and interposed between the outer end thereof and the valve, which it exerts a constant effort to force against the washer, and a dust cap applied to the external threads of the head of the valve body.

No. 542,683.—Bicycle Tire. John Nase, Syracuse, N. Y., assignor of one-half to Austin R. Dickinson, same place.

The combination of a felly formed with the flanges and grooves and rings provided with flanges entering the grooves, the tire provided with the ribs seated between the flanges, and cams pivoted to the felly and forcing the rings laterally from each other and clamping the aforesaid ribs between the flanges, and the cross bars affixed to the stems at the inner side of the felly to lock the stems in their position.

No. 542,752.—Vehicle Tire. Alexander T. Brown, Syracuse, N. Y.

A vehicle tire consisting of an air tube, a covering for the same having a series of inclined or oblique side pockets formed by spirally winding the covering, a tread formed on the outer periphery of the covering and a bearing on the inner periphery thereof.

No. 542,811.—Pneumatic Tire. Robert P. Scott, Cadiz, Ohio.

The combination of a wheel rim, an annular plate, a flange making a re-entrant angle with the plate and forming a groove thereunder and an inflatable tire having a selvage seated within the groove, the arrangement being such that inflation of the tire causes the flange to stand more nearly normal to the rim and thus assists in securing the parts in place.

No. 542,842.—Pneumatic Tire. James Buckner, Allston, Mass., assignor of one-half to Frank E. Wingate, same place.

A pneumatic tire comprising in its construction an air cushioned inner tube, resilient tread protecting strips arranged in two series on the outer portion of the tube, the strips of one series overlapping those of the other series so that the strips constitute a double thickness of armor along the tread surface, each strip having one end provided with a head or enlargement

and a sheath or shoe formed to inclose the tube and its protecting strips.

No. 543,033.—Mandrel for forming Pneumatic Tires. William Holmes, Chicago, Ill., assignor to Fred W. Morgan and Rufus Wright, same place.

The annular mandrel for the purpose set forth, having a section which is swiveled at one end, and means for holding and locking together the free end of the section and the adjacent end of the main portion of the mandrel comprising a dovetail tongue and groove and a latch, the tongue and latch being concealed when the swiveled section is held and locked in place.

No. 543,297.—Valve for Pneumatic Tires. Joseph E. Davis, Lynn., assignor to the Boston Woven Hose & Rubber Co., Boston, Mass.

The combination with a wheel rim having a square or equivalently shaped hole, and with a pneumatic tire surrounding the rim and having a nipple projecting toward the rim, of a valve case comprising a locking section formed to fit the hole in the wheel rim, an outwardly projecting central collar or washer arranged to bear on the outer side of the wheel rim, and an elongated section or extension inserted in and detachably secured to the nipple, the section and the nipple thereon being held within the space occupied by the tire by the bearing of the collar on the wheel rim, so that the section cannot be withdrawn from the nipple, the section and nipple forming an elongated air tight connection between the valve case and tire which is maintained by the engagement of the locking section of the valve case with the wheel rim and by the bearing of the collar.

No. 543,315.—Wheel Tire. Lucius J. Phelps, Belmont, Mass.

The combination with the wheel rim and its U shaped tire, of a contractible clamping band engaged with the edge portions of the tire and provided with a fixed nut, a nut engaging adjusting screw having a socket, and a longitudinally movable flexible operating rod or screw driver extending from the screw to the exterior of the wheel.

No. 543,319.—Pneumatic Tire. Julius Schipkowsky, Milwaukee, Wis., assignor of one-half to Walter P. Hatch, same place.

In the pneumatic tire the outer case or cover thereof having a diagonal split extending longitudinally around its inner face and forming overlapping edges and thickened adjacent to the split in order to afford sufficient body and stiffness to render the tire self-supporting, and a series of fastening plates arranged in pairs throughout the length of the case or cover, the members of each pair being oppositely disposed to each other, and riveted to the thickened inner face of the tire upon each side of the split therein and slightly removed therefrom, each of the fastening plates being made from sheet metal having a perforated base portion adapting it to be riveted to the outer case or cover and also having a perpendicular portion disposed at a right angle to the base and extending inwardly toward the rim, the perpendicular portion being slotted to engage teeth on the rim in combination with a bicycle wheel rim formed from a strip of sheet metal having its opposite edges overturned and disposed outwardly, and extending in parallel relation to the main portion or body of the rim, the bent over portions or edges being substantially of U shape in cross section and projecting inwardly toward each other sufficiently to form a seat for the tire, and a series of projections or teeth being formed at regular intervals throughout the length of the rim and adapted to engage the fastening plates carried by the outer case or cover of the tire.

No. 543,337.—Pneumatic Tire. William Driesbach, Williamsport, Pa.

The combination with an inflatable tube, of an inclosing shoe having thickened abutting edges provided with space beveled or under-cut shoulders, clips extending transversely across the meeting edges of the shoe and provided with upturned flanges

or lips lying against and engaging the beveled or under-cut shoulders, and means for securing the clips detachably to a wheel rim.

No. 543,386.—Pneumatic Tire. Arthur A. King, Aurora, Ill.

As a means for fastening tires to wheel rims, the combination of a wire extending circumferentially around the rim, a block connected to each end of the wire having flat sides, a shaft having right and left hand screw threaded portions, each of which engages a threaded opening in a block, a casing for each block engaging the flat sides thereof to hold the same from rotating a bevel pinion on the shaft, and an operating shaft having a pinion meshing with that upon the threaded shaft.

No. 543,434.—Vehicle Tire. Theodore B. Blosser, Springfield, Ohio, assignor, by direct and mesne assignments, to the Victor Rubber Tire Co., same place.

The combination in a vehicle wheel having a channel felly, of a tire consisting essentially of a rubber body having a continuous opening through the same, a continuous core of leather or other similar nonelastic or slightly elastic material adapted to fit in the opening so as to form a substantially solid tire, and a retaining wire passing through the core.

No. 543,704.—Tire for Vehicles. Alexander J. Rudolph, San Francisco, Cal.

A tire consisting of elastic blocks or pieces adapted to be attached radially, having inelastic threads woven there-through in a plane transverse to the plane of stretching, to compress the blocks or pieces transversely to their length, whereby they are elongated in a line at right angles with that on which they are compressed.

No. 543,782.—Metallic Tire for Bicycles. Joseph D. Prescott, Boston, Mass.

A metallic tire for bicycles and other wheels, as a substitute for pneumatic and other elastic tires, consisting of a steel plate having laterally projecting separate strips, the whole being bent into tubular form with the ends of the strips lapped, and then brought into circular form and the ends of the steel plate united.

DRUGGISTS' SUNDRIES.

No. 543,177.—Water Bag. William H. Daly, Bayonne, N. J.

The device for local application of heat or cold to any part of the body at the will of the patient herein described, consisting of a waterproof receptacle, for holding water formed and constructed to be attached to the human hand and supplied on its exterior with means for receiving the hand with its heat conducting surface outward.

No. 543,829.—Syringe. Isaac Q. Gurnee, Butler, N. J., assignor to the Butler Hard Rubber Co., New York, N. Y.

In a syringe, the combination of a syringe barrel, having a tip at one end and a head at the other, a piston sliding in the barrel, and a piston rod sliding in the head and connected to the piston, the piston rod having a metal core and provided with a coating of hard rubber vulcanized thereon.

HARD RUBBER.

No. 542,283.—Bridle Blinder. William Kiel, Butler, N. J., assignor to the Butler Hard Rubber Co., New York, N. Y.

The bridle blinder substantially as described, comprising a perforated plate forming a core, and layers of hard rubber upon each side of the core extending through the perforations thereof and vulcanized thereto, the plate being provided with an extension having perforations.

NOTIONS.

No. 543,282.—Dress Shield. David Basch, New York, N. Y.

A dress shield comprising a water repellent lining and a textile fabric cover in each of the two flaps, and provided with an absorbent between the lining and cover and which is sewed or secured at a distance from its upper edge to form a gutter or ledge, the cover being provided with perforations located above and allowing the perspiration to pass to the gutter or ledge.

BOOTS AND SHOES.

No. 542,961.—Rubber Boot. Samuel J. Harris, Millville, Mass., assignor of one-half to William F. Steinbach, Mystic, Conn.

A rubber boot having an insole, a middle sole cemented to the insole, and formed of canvas or cloth saturated with a rubber solution, this sole being of sufficient thickness to fill the hollow of the insole and render the bottom flat, a rubber sole cemented to the middle sole and made up of an upper and lower section of rubber and an intermediate portion of canvas saturated with a rubber compound, the whole being cemented and rolled, or pressed together, and a leather sole stitched to a welt of the rubber sole except at the heel portion which is stitched through the sole to the inside of the boot.

MISCELLANEOUS.

No. 543,583.—Process of Manufacturing Multicolored Patterns of Vulcanized Rubber. John Murphy, Brooklyn, N. Y.

In the art of making multi-colored tiles of India rubber, the process which consists in first semi-vulcanizing the sheets of various colors, in then cutting out small pieces of these semi-vulcanized sheets, in then laying these semi-vulcanized sheets side by side in the form of a tile, interposing between them un-vulcanized films of India rubber, and thereupon proceeding to completely vulcanize the entire pile.

TRADE-MARKS.

No. 26,811.—Waterproof Fabrics. Hepton Bros., Leeds, England. Filed June 1st, 1895.

Essential feature, the word "Heptonette." Used since December, 1887.

ASSIGNMENT OF THE ATLAS RUBBER CO.

THE Atlas Rubber Co.—under which name John F. Doty and Eugene Herbert have been engaged in the manufacture of druggists' sundries at No. 241 Greenwich street, New York—made an assignment on August 24 to John Behrens, giving a preference to the Mattson Rubber Co., of No. 26 West Broadway, for whatever amount may be due them, the amount not being mentioned. Mr. Doty was for a number of years superintendent of the Mattson Rubber Co., while the late Dr. Mattson was at its head, and for two years afterward carried on the business, controlling a majority of the stock of the company. In October, 1888, there was a reorganization of the Mattson Rubber Co., at which time they disposed of the druggists'-sundries business to Mr. Doty and Mr. Herbert—the former secretary of the company—who organized and have since managed the Atlas Rubber Co. Meanwhile the Mattson Rubber Co. have devoted their attention to the manufacture of rubber dress-shields, besides which they make under contract the Pearl corset-shield. H. Lemmermann is the president and John Behrens the secretary and treasurer of the company. The Atlas Rubber Co. began business with \$16,000 capital, and for several years were understood to be doing an excellent business, but of late it has been less profitable. They bought materials extensively from the Mattson Rubber Co., for which reason the latter are now the largest creditors of the concern. Mr. Behrens upon being appointed receiver for the company at once began taking stock, and he has filed schedules showing liabilities of \$23,114; nominal assets of \$11,000; and actual assets of \$10,000.

THE chief of the fire-department of Minneapolis, Minn., has ordered a rubber-tired wagon in which to drive about the city, with the idea that the new tires will save the occupants of the vehicle from severe and injurious jolting, while it will be safer to turn a corner or cross car-tracks at full speed. The chief of the fire-department of Buffalo, N. Y., has been supplied with a similar conveyance.

HEARD AND SEEN IN THE TRADE.

WHEN the editor of THE INDIA RUBBER WORLD, nearly a year ago, made merry over the prospectus of the Jean Rubber Co., he could hardly have suspected how little cause for mirth lay in the mind of the gentleman whose name, without authority, headed that document. General Joseph M. Jean has long been a man of affairs, but his devotion to the interests of the French government, first in Cochín-China and later at Cayenne, prevented him from keeping pace with the ever-widening range of money-making methods in the broader field of the United States. He had heard of the painful excess of capital in this country, however, and hence this story. It seems that the General found a copy of the United States consular reports on India rubber, prepared at the suggestion of THE INDIA RUBBER WORLD, and was captivated by the exuberance of Consul Kerbey's accounts of the profits of rubber-gathering. He thereupon obtained a provisional grant of lands in French Guiana, with the privilege of gathering every form of elastic gum which might exist thereon, with the help of the convict colonists thrown in. Then he set sail for New York, where the first thing to attract his attention was the advertisement of a man anxious to invest \$30,000 in "a good thing." Guiana rubber was a good thing, the General explained, and the man with \$30,000 jumped at it. The advertiser soon had an option on the whole business until certain details could be examined, while the *cessionnaire* paused for developments. When they came he nearly sank through the earth to Cochín-China. There fell into his hands one day a glowing prospectus of the Jean Rubber Co., incorporated without his knowledge to develop his own concession, with officers whose names were new and strange to him. Worst of all, in ungrammatical phrases shocking to the General's sensibilities, millions worth of stock were offered at 12½ to early buyers, who were invited to send their money to the "treasurer"—the \$30,000 man. The General was not long in consulting a lawyer, and in due time an injunction from one of the courts was served upon the man who had so boldly stolen his thunder.

* * *

IN last Sunday's *Courrier des Etats-Unis* there appeared a prospectus of the Franco-American Rubber Co., which I am informed is the real, genuine rubber enterprise of General Jean, who has now a perfected—no longer a provisional—concession in French Guiana, embracing 61,876½ acres, on both sides of the navigable river Kouron and extending to within five miles of the Atlantic. Here, he has been assured by government surveyors, there are many Balata trees, not a few of the *Hevea Guyanensis*, and a rubber-bearing tree called locally the "mapa." There are even *Ficus elastica* trees, due to intercourse with Pondicherry in the earlier days of the French occupancy of Cayenne. A special advantage claimed for this enterprise is that labor will cost practically nothing, since Guiana is the French convict colony, and the rubber would be gathered, under the terms of the concession, by men who are now supported in idleness at the public expense. The new company was incorporated under the laws of West Virginia on July 29 last, the amount of capital named being \$1,250,000. General Jean hopes to interest some of his fellow-countrymen here sufficiently to raise enough cash to make a beginning on the Kouron, after which he has no fear that everything will not be plain sailing with the Franco-American Rubber Co. General Jean informs me that a considerable number of shares have been subscribed by his fellow-countrymen here, and that he expects to sail soon for Guiana to start his enterprise.

THE submarine cable which is to be laid up the Amazon from Pará will be of doubtful advantage to the great rubber-exporting companies, in the opinion of at least one member of the trade. "If it were merely a connecting line between Pará and Manáos," said he, "the benefits would be manifest. Banks would be established at Manáos to provide facilities now so sadly lacking there. When our houses buy rubber on the Amazon it is paid for in cash obtained from the banks at the time by the sale of bills of exchange drawn against cargoes of rubber afloat. This is conveniently arranged at Pará, where there are banks and existing cable connections. But when rubber is to be bought at Manáos, it is necessary to send cash up stream by the boats, which consumes several days, during which time an important fluctuation in exchange may have occurred. Any possibility of loss from such a source would be prevented by the establishment of telegraphic communication with Manáos, after which transactions in exchange might be conducted there as well as at Pará. There is another side to the question, however, due to the fact that the cable will have thirteen intermediate stations, which will have the effect of making every landing along the river a rubber market, and each of these points will have to be watched by a house which is careful to protect its trade fully. One will need branch houses or managers, not merely at the two termini of the cable line, but at every stopping-place on the way, else a competitor, by making a purchase at the mouth of some river which doesn't yield more than one good shipment in a whole year, might be able now and then to gain a decided advantage. The establishment of so many branch houses would have the immediate effect of largely increasing the expenses of a firm doing an important rubber trade, and of course all expenses of doing business must come finally from the consumers of rubber. In this sense, the new cable cannot be looked to as an advantage." I hear that the shares of the company were over-subscribed in London immediately on the opening of the books; also that the completion of the cable is promised before the end of this year.

* * *

THE reports from Pará since the beginning of the new rubber crop-year show that the arrivals already indicate a good increase over last year's production. But this is no more than was anticipated by those who had studied the trade situation on the Amazon. One peculiarity of the industry is that rubber is never gathered extensively there until the supplies which are to pay for it have gone upstream. As the shipment of supplies depends upon the stage of the water at the beginning of the season—or, rather, prior to it—it will be seen that plenty of water in the rivers is favorable to a good yield of rubber. It happens that this condition has existed this summer, and hence the expectation in the trade of an extensive rubber output.

* * *

WHEN the officers of the United States Rubber Co. applied for the listing of their shares on the New York Stock Exchange, in December, 1892, the past earnings of the affiliated companies were pointed to as an indication of what could be done by the new corporation. The companies embraced in the combination at that time represented a capitalization of \$26,423,600, and their combined average earnings for ten years preceding were reported at \$959,499.29. Their earnings for one year preceding were reported at \$1,181,186.65. Since the Stock Exchange has directed attention to "Rubber" in so pointed a

manner of late, it may be of interest to compare this original statement with what has since been accomplished by the rubber company. Their capital now aggregates \$39,366,500,—representing a larger number of factories than in 1892,—and the profits for last year, at the best rate promised in the prospectus, would have reached only \$1,752,190.62. As a matter of fact, however, Treasurer Flint reports total net profits amounting to \$3,217,118.87, which is at the rate of about 83 per cent. more than was promised.

* * *

THE demand for lighter bicycle-tires has reached its limit. In July I quoted a very important factor in the trade as being of the opinion that this season's trade would prove that a mistake had been committed in adopting so light a standard. I have since talked with the manager of one of the newer companies, who began the season with a 2¾-pound tire, but who have already quietly increased the weight to 4 pounds. "The lighter weight couldn't stand the racket," he explained. Another manager said that his company had foreseen this state of things. "We were called conservative," he said, "in not reducing our weights this year, but we expect all our competitors to come back to our standard. By the way, wheels have been made too light, as well as tires. We have twitted the English on retaining their heavy, lumbering bicycles, but a little more experience will teach us that the English were nearer right than our own manufacturers. If a wheelman wants to get any pleasure out of riding, other than covering ground in a hurry, he needs a steady-going wheel, and this is impossible with the lighter makes that have been put out this year."

* * *

"THE rubber-man finds no two years alike," said a shoe-jobber. "None of us can forecast the trade very far ahead, and success comes from keeping an eye open for changes, and adapting one's self to them. When this season opened I thought that the tennis-shoe trade was dead, and yet we have done a larger business in that line than for several years past. The trade is now over for this year, but while it lasted the demand was surprising. But we have nothing to guide us in predicting what the demand for tennis goods may be in 1896. My own opinion is that the advance in leather shoes last spring, just as the tide season for tennis goods was opening, had much to do with the large buying of the latter. The advance in leather shoes was proportionately larger on the cheap grades, and tennis goods came into demand as a substitute."

* * *

I ASKED a rubber-man whether the recent somewhat unsettled condition of the leather-shoe trade, growing out of the advance in prices, had had any effect in delaying orders from shoe-merchants for rubbers, and he thought not. "I believe," said he, "that the advance in leather goods has been a good thing for us, on account of its moral effect, so to speak. The advance in rubbers, two or three years ago, was accompanied by a good deal of dissatisfaction in various quarters toward everybody in the rubber-shoe trade. This soreness did not wear away readily, but now the feeling of dissatisfaction has been turned into another direction. It is the leather-men who are now catching it, and there is a pleasanter atmosphere for the dealer in rubbers. Meanwhile the trade has become adjusted to the new rubber lists, and people are forgetting that any other prices ever existed."

* * *

SPEAKING of rubber shoes, this seems to have been an exceptionally busy season for all the factories, and yet there are

complaints from some houses that they cannot get their orders filled as rapidly as they wish. Two reasons are mentioned for the unusual good flow of orders at this season—the small stocks in the hands of dealers on April 1 and the desire of dealers to profit by the extra 5 per cent. discount allowed before October 1.

"But the same extra discount was offered last year," said I to a selling-agent.

"Very true," he replied, "but the trade was skeptical about it then. That is, they seemed to believe that they could claim the extra discount indefinitely. But when they found, after October 1 last year, that full prices were charged they determined not to make the same mistake another year. This is why the extra 5-per-cent. is having a more general effect this year than last."

* * *

I WAS about to write that the most elastic thing yet seen in the India-rubber trade is the tire-guarantee. But this is hardly accurate. True, the guarantee has been stretched until it covers every sort of injury to a pneumatic tire, no matter how caused. Enthusiastic wheelmen make wagers on the durability of their favorite tires, subject them to all sorts of abuse, and, when the rubber gives way, they demand that it be renewed at somebody else's expense! But while the guarantee has stretched readily, it never contracts, and here the elastic comparison ceases. Since the manufacturers see no help for this state of things, some of them have become worse tired than any bicycle ever was, and dropped the business. In the office of a surviving company I saw, on a paper broadly margined in black, under the heading "In Memoriam," a list of bicycle-tires widely advertised at one time or another, but now no longer in the market.

"Guarantees killed them," said the manager of the company. "That was not the only trouble, of course,—some of them didn't have practicable things in tires, and some lacked adequate capital,—but all of them suffered from abuse of the guarantee. Some of the companies must have had 100 per cent. of their tires returned."

"What will the end be?" I asked.

"That is too far off to say. No tire-maker as yet dares to restrict the application of his guarantee to proper limits; some competitor would be certain to take unfair advantage of his action. Nor is the trade yet in such shape that any concerted action by the makers is feasible. The first step toward stopping the abuse is likely to be taken by the retail dealers in bicycles, who have to bear much trouble and expense on account of the guarantee system. The bicycle-manufacturers lessened their own burden by arranging that purchasers of their wheels should look directly to the rubber-men to make good the tire-guarantees. Now the wheelman whose tire becomes punctured takes it to the retailer, who has to bear the expense of sending it to the tire-maker, and in the end the aggregate expense is heavy. To avoid this expense many dealers repair the tires free, if they can be repaired, and in this way the number returned to the tire-makers is becoming less."

"It may have been good business management at the outset, when wheelmen naturally were suspicious of the expensive inflated air-tube tires, to guarantee the rubber. But it was a mistake not to insist that the wheelman should use proper care. Men don't go mountain-climbing in patent-leather boots, and then demand that the dealer replace the boots if they should happen to be scratched. Why then should they subject light-weight pneumatic tires to the roughest possible usage, and demand new sets at the first sign of damage?"

THE MAN ABOUT TOWN.

RUBBER-WORKS IN THE NATURAL-GAS FIELD.

A NEW rubber enterprise in the natural-gas district is the Kokomo (Ind.) Rubber Co., incorporated August 9, for the manufacture of rubber tires and other mechanical goods. The prime mover in it is David C. Spraker, formerly one of the stockholders in the Jonesboro (Ind.) Rubber Co., who is the president and treasurer, and a competent and experienced man has been chosen as superintendent and manager. The other directors are A. Lehman (of Peru, Ind.), Frederick Youngman, W. G. Johnson, and George W. Landon, the company's secretary. They are capitalized at \$50,000. They already own the necessary buildings—one of brick, 40 x 100 feet, with two stories and basement—on a tract of two acres of land. A letter to THE INDIA RUBBER WORLD announces: "We shall manufacture bicycle-tires and rubber supplies for druggists, and machinists' use largely. We shall begin operations about November 1. We have patents to apply for upon bicycle-tires, but shall not file them for some time. . . . Our machinery is all purchased and will be put in place inside of thirty days [from August 23]." The buildings referred to were formerly occupied as a knitting factory.

In reply to a question respecting a reported decline in the natural-gas supply at Kokomo, President Spraker informs THE INDIA RUBBER WORLD:

"There has been no more decrease of the natural-gas supply in our field than what is generally the case all over the Indiana field. Our secretary has been interested in the gas business for many years, and in his opinion the Howard-county field (that is, our county) is fully equal to that of any other county in this state. While the pressure is decreased to some extent, we have an ample supply of gas in the Indiana fields that we trust will last for many years. Our town is as well, if not better, supplied with gas than any other town in the state. We have three pipe-lines leading into it, of sufficient capacity to supply not only all of its inhabitants with gas for domestic purposes but also all of its factories."

THE Peoria Rubber and Manufacturing Co. was organized at Marion, Ind., on August 18, for the establishment of a rubber-tire works at Peoria, Ill., the citizens of which place are understood to have offered liberal inducements for the location of the industry in their town. The foundations have been laid of a brick factory-building, 66 x 272 feet in size. The capital is to be \$200,000, of which \$150,000 is reported to have been paid in. The directors are Monroe Seiberling and Alton G. Seiberling (Kokomo, Ind.); James H. Seiberling and Frank Kryder (Akron, Ohio); Charles J. Butler (Marion, Ind.); Charles E. Duryea and Theodore J. Miller (Peoria, Ill.) Most of these gentlemen are interested in the Jonesboro Rubber Co. The prime mover in the enterprise is Monroe Seiberling, who has a successful record in the establishment of factories in the natural-gas district. Charles E. Duryea, who is named as a director, is the inventor of a successful pneumatic tire. The officers of the company are Monroe Seiberling, president; J. H. Seiberling, vice-president; A. G. Seiberling, treasurer; and Charles J. Butler, secretary.

THE INDIA RUBBER WORLD has letters from still another concern—already manufacturing rubber goods—who propose shortly to establish a bicycle-tire factory on a large scale in the west, but who prefer for the present not to have the facts published. It is also reported that work has been begun on a new rubber factory near the Westinghouse Air-Brake Works at Wilmerding, near Pittsburgh, Pa., and that rubber hose is to be manufactured on a large scale.

RANDOM NOTES FROM PARA.

TO THE EDITOR OF THE INDIA RUBBER WORLD: The authorities of the states of Amazonas and Pará are actively engaged in the organization of an "agricultural, artistic, and industrial exposition," which is to be held in the city of Pará from November 16, 1896, to February 15, 1897. The site of the exposition is to be the grounds of the governor's palace. The states of Ceará, Piauí, and Maranhão are to be invited to participate, and as these, together with Amazonas and Pará, constitute the greatest rubber territory in the world, it is expected that the rubber department of the exposition will be a very important one. The Baron of Marajó, whose article on rubber in THE INDIA RUBBER WORLD all your readers will remember, will take an important part in the organization of the exposition. After it is all over perhaps we shall not again see in so great a newspaper as the New York Tribune such an expression as "para is the technical name given to rubber in the trade." I wonder what the Tribune's editor would think if a Pará daily newspaper should retort with a definition of "new york" as a fanciful designation applied as a trade-mark to certain articles of merchandise imported from the United States?

A commission sent out by the state of Pará last October, under the leadership of Senhor Laureço Conto, to explore the upper Cumina, report that the fabled *campos geraes* (great country) watered by that stream possesses in reality all the charms of scenery and fertility that had been claimed by the Indians. Many hardships were endured by the explorers. A road will be opened to the new country through the municipality (county) of Alemquer, after which it is believed that its settlement will be speedy, and that the output of rubber will be considerably increased. A good opening exists, too, for agriculture in this region, and attempts will be made to encourage immigration.

The question of colonization has again come to the front in the state of Amazonas. It has become emphasized in importance by the results from encouraged immigration in São Paulo, which, in a comparatively short time, has become the most prosperous state in the Brazilian union. The labor of the colonists alone has made this possible. If one considers the climate and fruitfulness and variety of soil which Amazonas affords, it would seem that no limit to possible progress existed. The opportunities for making fortunes here are by no means confined to India-rubber.

The Amazon Steam Navigation Co., Limited, have renewed their contract with the Brazilian federal government for a term of years. As a result they may be expected to become an even more important factor in the rubber-carrying trade, increasing the number of their steamers and improving their landing facilities. By the way, the project of placing the carrying trade of the Amazon under the Brazilian flag seems to have been indefinitely postponed. Contracts have been placed by the company for new steamers.

Another new steamer, privately owned, has arrived from England for the Amazon-river trade. It left Liverpool on July 24, consigned to an important firm at Manaus, and is intended for the upper Amazon. It is named the *Pensador* (the thinker), in honor of the governor of Pará.

Manaus is to be lighted by electricity. The contract has been awarded to H. Jaramillo, of Pará, who has already visited New York to obtain the needed materials.

The export tax on India-rubber in Peru has been abolished by the provisional government as not being conducive to "the development of national industry."

GRAO PARA.

Pará, Brazil, August 15, 1895.

IMPROVED CONSUMPTION OF RUBBER.

THE trade summary published at Washington for the fiscal year ended June 30, 1895, indicates that the India-rubber industry in the United States is rapidly assuming its normal proportions. Below the figures are given of the total rubber movement recorded by the government for the year just closed, compared with the record of the fiscal year ended June 30, 1894,—during which some of the worst effects of the depression in business were felt;—and also the records of the two fiscal years immediately preceding that, when the imports of crude India-rubber were the largest in our history. It is a noteworthy fact that the importations of India-rubber should, within so brief a period after the recent depression, ascend to almost the highest point before known. The details follow:

India-rubber:	1892.	1893.	1894.	1895.
Imports (pounds)....	33,976,805	41,547,680	33,757,783	39,853,873
Exports.....	1,600,834	1,072,369	2,344,536	1,383,951
Net imports.....	38,375,371	40,475,311	31,413,247	38,469,922

Gutta-percha:	1892.	1893.	1894.	1895.
Imports (pounds)....	308,339	582,378	498,763	1,326,794
Exports.....	8,557	18,716	8,609	504,751
Net imports.....	299,682	563,662	490,154	822,043

Total—Both gums:	1892.	1893.	1894.	1895.
Imports (pounds)....	40,284,444	42,130,058	34,256,546	41,180,667
Exports.....	1,609,391	1,091,085	2,353,145	1,383,951
Net imports....	38,675,053	40,039,073	31,903,401	39,796,716

Manufactures—Imports:	1892.	1893.	1894.	1895.
India-rubber (values) \$	\$371,580	\$338,435	\$309,308	\$315,902
Gutta-percha.....	61,276	81,173	30,654	71,199
Total.....	\$432,856	\$419,608	\$339,962	\$387,101

Manufactures—Exports:	1892.	1893.	1894.	1895.
Boots and shoes (values) \$	\$183,570	\$252,391	\$155,011	\$225,986
All other—Domestic .	1,232,497	1,357,015	1,306,831	1,279,156
Foreign Manufactures	109	13,781	158,155	1,676
Total.....	\$1,416,176	\$1,623,187	\$1,619,997	\$1,506,818

Often no proper distinction is made between Gutta percha and other gums at the United States custom-houses, for which reason the figures above given are most satisfactory when considered as to the totals. Viewed in this way, it will be seen that the total net imports, including balata, tuno, etc.,—i. e., everything imported under the names of India-rubber and Gutta-percha,—for 1894-95 were very slightly exceeded by those of 1892-93, and were never before equalled. The custom-house officials, by the way, can hardly be blamed for sometimes not knowing how to classify imports of rubber, except that it ought to be one of the regulations of the service not to include in "Gutta-percha" any gums of American extraction.

The exports of domestic manufacturers of India-rubber and Gutta percha will also seem to have been larger than in any former year, with the exception of 1892-93, which is, so far, our banner year so far as exports are concerned. The number of pairs of shoes exported was 410,950, in 1893, declining to 261,657 in 1894, and increasing to 383,793 in 1894-95.

GLIMPSSES OF INNER AFRICA.

ONE need not be excessively optimistic to believe that Africa is not destined to remain a "dark continent" any more than the great central region of North America was so destined. It is interesting to read in the *British Central Africa Gazette* (Zomba) local news-items which indicate the possibilities in the way of training the natives in the ways of civilization. For instance, native boys are now at work as telegraph-operators on the African Transcontinental line, the office at Blantyre being

in sole charge of an African. Some natives—one of whom is named David Livingstone—have become land-owners near Blantyre, under the British regulations, and are planting coffee. Not only has Zomba a printing-office, but letters have been received from there, typewritten in excellent style. From another source it is learned that several Kaffirs have learned to ride bicycles, of which more than 4000 are said to be in use about Johannesburg.

The growing distribution of the agencies of civilization and the tractability of the natives in the presence of white men are surely, even if slowly, supporting the position taken by Mr. Gustav Heinsohn, in a recent *INDIA RUBBER WORLD*, that all the rubber-producing countries are capable of civilization and likely in time to be fully opened to commerce. The transportation problem, however, is far from being developed. Thus the last Zomba *Gazette* received at *THE INDIA RUBBER WORLD* office was seventy-six days old when it arrived. The same mail brought a letter from Matadi, on the lower Kongo, from Mr. Warren C. Unckles, who is in the employment of one of the Belgian companies gathering India-rubber farther up the river, which had been forty four days *en route*. Mr. Unckles, by the way, has since arrived in New York for the purpose of recuperating his health.

THE STANDARD RUBBER CORPORATION.

THE works of the Standard Rubber Corporation are delightfully located on Summer street, Campello, Mass., and are surrounded by beautiful pine groves, and give employment to 150 hands the year round, many of whom own their own homes in the immediate vicinity. The plant is a large one with a capacity of from 350 to 400 garments per day of the medium and higher grade goods and if run exclusively on single texture goods it would be an easy matter to produce 750 or 800 garments every 10 hours.

The factory contains more floor space than many large shoe shoe factories and is equipped with an automatic sprinkling system and electric light plant. The different rooms are laid out with a view to the comfort and health of the employes; the stitching room in particular is an exceptionally pleasant place to work in. It is clean, commodious and well lighted and an excellent view of the pleasant surroundings can be obtained from all parts of it.

An erroneous idea seems to prevail amongst many that the work performed by the female portion of the help is of an unpleasant nature, but the fact is when the goods reach the girls it is as clean and nice as if in a dry goods store.

Since the new company took hold of the concern it has been very prosperous and it is worthy of mention that it was one of the very few factories in the city that kept running steadily during the hard times of '93 and '94. There have never been so many unfilled orders on hand as at present, and from indications, it looks as though the year of '95 would be the most successful since the company started.

The new company was organized three years ago with the following officers: W. W. Cross, president; D. J. Pierce, vice-president; Calvin Austin, secretary; F. B. Pennington, treasurer and manager. The latter gentleman was the organizer, and has had the general management and control of the concern ever since. Mr. Pennington has a large acquaintance in the rubber line, and controls some of the largest accounts in the trade. He is recognized by the rubber people in general as a man of unusual energy and push, who is equipped with a thorough knowledge of the details of manufacturing, buying, and selling the goods used in this industry.—*Brockton Times*,

NEW GOODS AND SPECIALTIES.

A RECENT patent is for a contrivance that is used to extract tacks from the surface of pneumatic tires. When a tire first catches a tack only the point penetrates and that usually as far as the fabric that is just under the rubber core. If the tack be pulled out then no harm is done. If however every revolution of the wheel drives it further in a puncture is the result. The tack catcher is hung on the frame just over the tire and is expected to pull the tack out after its first insertion.

THE TYRIAN TOBACCO POUCH.

THE two illustrations show a folding rubber pouch first made in France some years ago, and of which many thousands have



been brought into the United States. The Tyrian pouch is made of a high grade of red rubber, and is carefully finished in every particular. While the word Tyrian forms a trade mark for these goods, the embossed figures on the base showing three rubber plants also serve the same purpose. Manufactured by the Tyer Rubber Company, Andover, Mass.

THE LATEST—"FLOXINE."

A RACING tire that is a delight to the eye, as well as to the user, bears the name Floxine. Color experts will recognize it as the name of a beautiful color that is about half way between purple and lavender. It has never been attained in rubber work heretofore, but now that it is accomplished it bids fair to create a sensation. The originators will not only use it on their racing tires, but will embellish their regular makes of black tires with a handsome Floxine brand. A few months hence it won't be necessary to tell any tire man that Floxine is a trade mark of the Boston Woven Hose & Rubber Co.

A HARD RUBBER PINKING ROLL.

THESE rolls are used in pinking machines on leather boot and shoe work. In the past the ordinary rolls have caused trouble by cracking and flaking off when the cutter was run near the



edge. These however are made of a quality of vulcanite that is very tough and exceeding durable, and they are said to be the best that have ever been put upon the market. Manufac-

tured by the Paragon Hard Rubber Pinking Roll Co., 105 Bedford street, Boston, Mass.

THE GLADIATOR SEAMLESS STITCHED BELT.

A NEW style of belt now in the market, which bids fair to become one of the most popular ever offered is the "Gladiator Seamless Quilt Stitched Belt." As the name indicates it is extremely strong and durable, is seamless and quilt stitched, as shown in the engraving. It is in this method of stitching that it differs radically from all other sewed belts, and to it also, the belt owes its other attractive and superior qualities.

For a long time there has been a recognized demand for a first-class stitched belt,—one that would retain its strength, in which the stitching would not break and tear the belt with every unusual strain, and in a word could be thoroughly depended upon to give continued satisfactory service. While allowing that the ordinary longitudinally stitched belt with which the public has long been familiar undoubtedly possesses merit, the manufacturers of the Gladiator claim that it has objections inherent in the different methods of its construction. These briefly stated are, that the straight lines of longitudinal stitches weaken the belt and render it liable to tear in the same direction; that the strain is nearly all on the outside stitches, and the thicker the belt may be, the greater the disparity of



strain on the stitches and the more liable they are to break; that, as the sewed belt is naturally somewhat contracted by the longitudinal plan of stitching, the threads are liable to break when a severe strain is put upon the belt, and that the lines of stitching put in the way they are, weaken the belt for lacing. In the Gladiator the belt is double stitched, the lines of stitching being put in obliquely and crossing each other; in other words the belt is "quilted." The merits of this method of stitching are at once appreciated. In this way the strain upon the belt is more evenly divided and distributed in all directions and there is no liability of the stitches breaking to tear the belt and so weaken it; on the contrary a network of cotton stitching is formed, each component part of which adds strength to the others and to the belt as a whole. The manufacturers have perfected machines of special design for making these belts and claim that in the "Gladiator" they offer what may be

truly called a perfect stitched belt having none of the objectionable features that pertain to other sewed belts, but with every merit which a perfect belt of the kind should have and with a degree of strength and durability not possible to secure by any other method of construction. A sample of this new style belt, with full information, will be sent free to all who apply for it at the main office and works of the New Jersey Car Spring & Rubber Company, Wayne and Brunswick streets, Jersey City, N. J.

RUBBER TYPEWRITER-KEYS.

THE idea is not entirely new of having an attachment for typewriter-keys which gives them a soft and yielding surface for the fingers to strike against. But it is only lately that a satisfactory cushion for this purpose has been introduced. The present device is of hollow rubber three-sixteenths of an inch deep, with a flat surface corresponding in size to that of the key itself, and having a metal base which attaches firmly to the key. The characters on each cushion are the same as those on the key to which it is fastened. The advantage of resilient key-tips compared with those of glass or celluloid used on most machines is that, by their use, the operator's fingers are not battered and chafed from continued manipulation of the keys, and the machine is not so liable to be racked, or the type thrown out of alignment. Moreover, characters which are small in size and often pierce the paper and injure the cylinder of the machine, are caused to strike with less force, and leave a more even im-



pression on the written page. For the use of those operators able to write without closely observing the keys, cushions are made on which the characters are omitted altogether. These serve the double purpose of relieving the eyes of the strain imposed upon them by frequently glancing at the keyboard, and of insuring the machine against being tampered with by persons not thoroughly familiar with its use. For the further benefit of the eyes, rubber of any desired color is used in making these tips, and the metal base may be coated with either nickel or black enamel. The space-bar of the typewriter is also provided with a cushion of the same height and elasticity as that of the keys. The cuts shown here represent two cushions, of different shapes, and a sectional view showing the construction of the cushions. An interesting feature of the manufacture is the inlaying of the rubber letters—white rubber for the dark cushions and black for the white cushions. It may be mentioned that a recent paragraph in THE INDIA RUBBER WORLD in regard to the lack of success of typewriter-cushions had been written many months before, and finally got into print by accident. The invention described here is that of Robert S. Graham and W. A. Savell, who have come to the east from San Francisco to make manufacturing arrangements. The result is the Typewriter Cushion Key Co., Newark, N. J. H. W. Buse, Nos. 144-152 Nassau street, New York, is general agent.

SPECIAL VEGETABLE BLACK.

A MOST intense black for use in rubber compounding has been produced by a well-known firm who make a specialty of the chemistry of India-rubber. This black is wholly of vegetable origin and contains no lead nor deleterious compounds. It contains no sulphur, and is especially adapted for the making of brewer's hose. Manufactured by Typke & King, London, Eng., and New York.

RUBBER IN BOWLING ALLEYS.

THE newest and most striking idea, and one which will commend itself very generally, is that of a noiseless bowling alley. Bowlers can now enjoy themselves all day, and all night, if they wish, without disturbing their neighbors, and the visitor to the summer hotel will miss an important item from his chronic complaint list. Bowling alleys are now made with a thick sheeting of rubber extending over their whole surface. The balls and pins are also covered with rubber, and the alleys fitted with these protections are guaranteed to be absolutely free from noise.

PUFF SLEEVE LIFE PRESERVER.

IN spite of caricaturists the puff sleeve seems to have come to stay. It rarely however has such a good excuse for being worn as in the case shown in the illustration. Here the sleeve fitted to a natty bathing suit is not only a confidence inspirer



but may be a life saver. In this case of course it is made of rubber. It is in brief an air-tight receptacle that can be inflated and that will support hundreds of pounds of flesh and blood on the stormiest of seas. In fact it would take a thousand horse undertow to keep it under water.

A "BALL NOZZLE" FOUNTAIN-SYRINGE.

AFTER successfully introducing the "ball-nozzle" principle in the manufacture of fire-apparatus and garden-hose, the inventors have turned their attention to other fields, the latest result being a fountain-syringe with ball-nozzle attachments. It is particularly with regard to the vaginal syringe, however, that attention is called to the new idea. As is well known, a syringe for this purpose, throwing a straight, piercing stream, is out of the question. From the beginning, therefore, a laterally-pierced tube has been in use, but now come the inventors of the ball-nozzle with the claim that the best of the syringes in use hitherto have failed to do the work of cleansing thoroughly, and that perfect-cleansing can be done only by means of such an even and gentle conical shaped film of water as issues from the mouth of the ball-nozzle syringe. The details of its construction, with illustrations showing the method of its application, are contained in

a circular issued by the manufacturers, The American Ball Nozzle Co., Nos. 837-847 Broadway, New York.

PNEUMATIC CAPS AND ROLLS.

A TRAVELING CAP has just been brought out which is nothing more than a pneumatic tire adapted to the purposes of headgear. It is an ordinary cap, to all appearance, and would not excite too much attention in a railway carriage or on the platform of a station, but when filled with air it forms a pillow on which the weary traveler can rest his head against the side of the carriage and sleep in peace. Another adaptation is to the rollers of washing and finishing machines. So far, whether of wood, iron, or even India-rubber, these are deficient in elasticity, and the latest idea is to wind a spiral India-rubber tubing around the two cylinders of the washing machine throughout the whole length of their surface. The ends of these tubes can be attached to an air-pump, by which means they can be so filled with air that uniform and regulated pressure can be put on the goods passing through the cylinders. Sarfert, the inventor of this system, claims that the flattening of the tubes at the point of contact gives a rubbing action between the India-rubber and the stuff, which allows the cleaning of the fabric to be done in a third of the time necessary with the system of rollers.

A NON-PUNCTURABLE HOSE PIPE TIRE.

A LARGE hose manufacturing firm believes that it has secured a really unpuncturable rubber tire. This is a hose pipe rendered puncture-proof by a patented system of knitting or weaving the threads between the inner and outer coating of rubber. The tire has been most severely tested by being ridden over a track strewn with broken glass and a board from which projected hundreds of sharp pointed tacks and nails—and not a puncture. If this tire proves what its inventors claim, then one will have as nearly perfect a non-puncturable tire as human ingenuity can devise.

TRICYCLES AS PARCEL-CARRIERS.

THE pneumatic-tired tricycle has never met with favor in the United States as a vehicle for pleasure, but it now seems likely to come into wide use for practical purposes. Attention has been called to it prominently by the experiments now making by the United States Express Co. in the use of tricycle carriers in the delivery of light parcels in cities, and especially for "special delivery" parcels. Mr. E. H. Crosby, a vice-president of this company, while in London in the summer, became interested in the large number of tricycles used there for delivering parcels, and placed an order in England for a specially-designed vehicle, which reached Chicago on August 12 and was put in service there the next day. An illustration of this machine is shown herewith. It is provided with pneumatic tires and ball bearings, but is operated without a chain. The box on the machine for holding packages is 30 inches long, 28 inches wide, and 21 inches deep. The box is covered and waterproof, with a door in the rear end, while the top is fitted with a rail for holding extra packages.

Since the introduction of the vehicle above described the ex-



IMPORTED CYCLE CARRIER.

press company have ordered from the Tinkham Cycle Co. (New York) one of their "Tourist carriers," for experimental use in New York. From the illustration of the latter also shown it will be seen that the machine differs in construction from the English vehicle in several respects, but particularly in the gearing. The dimensions of the cabinet in this machine are 30 inches for the length, and 24 inches for the width and height, respectively, though these can be varied to suit the particular needs of purchasers. There are now in use several Tinkham carriers in New York—one by a prominent firm of confectioners, another by an east-side butcher, etc. Quite a number of delivery tricycles are also in use in Washington, and others in Philadelphia and elsewhere.

Machines of this class have been in use in many European cities, by the postoffice departments and by private concerns, for many years. The British postoffice adopted the tricycle-cart idea seven or eight years ago for use in the parcels-post branch. The big stores in many European cities use them a great deal for making quick deliveries of small parcels. The number now employed in England alone is stated at 100,000.



TINKHAM CARRIER.

Possibly one reason for their coming into such extensive use in that country before their adoption in America is that the express business as organized here, with immense plants of horses and wagons, is unknown

abroad. As above indicated, however, it has become a live question here whether an important saving cannot be effected in the use of these comparatively cheap vehicles in delivering parcels in many cases where large wagons have to be sent over long distances sometimes to make small deliveries.

The cost of the imported tricycle introduced at Chicago has been stated at \$175. This is also the advertised price of the machines offered by the New York firm.

RUBBER COMPOUNDS AND COMPOUNDING.

MESSRS. TYPKE & KING, of London, India-rubber chemists, are now pushing their business in this market. We hear they will issue a small pamphlet of instructions for using their specialties, which may be interesting, especially as the members of the firm are experienced chemists who have devoted many years to the requirements of the rubber trade. All their preparations are made under their personal supervision. They employ on their staff a practical manufacturer of every description of rubber goods, thus enabling them to offer to the trade such articles as have been actually tested, and proved satisfactory. The superiority of their products is demonstrated by the increasing demand, to meet which they have been compelled to enlarge their works. Among the preparations for which they have quite a reputation, and a large trade, are Substitutes, Sulphuret of Antimony, and "Black Hypo," together with various colored pigments.

It is strange to consider the peculiar prejudices of some manufacturers who use substitutes. They will assert that the English manufacture is not as desirable as the French, and yet we are told these English chemists have been doing for the past fourteen years a fair trade in substitutes made in England, and supplying them in competition to the principal rubber manufacturers of France, England, Germany, Austria, etc. They claim for their best quality that it can be used for proofing silk, or any material single or double texture, that it is perfectly

neutral, and does not bloom. It differs from other substitutes in that it can also be safely used for red mechanical goods, the color of these remaining as brilliant as if only pure rubber had been used. They make six kinds; some of them are very nice to look at, and they assert with a great amount of confidence that they are as good as they look, and that if once used, and given a fair and impartial trial, they will be found superior to any other manufacture. They propose to sell at prices to tempt the sceptic to use them. Incidentally we mention that their United States agent is Mr. Joseph Cantor, 19 Whitehall street, New York.

END OF THE EAST AFRICA COMPANY.

AT the annual meeting of the Imperial British East Africa Co., Limited, held in London on July 24, it was voted to wind up the affairs of the company voluntarily, and to appoint liquidators. There will be £250,000 to be divided among the shareholders, this being the amount which the government have agreed to pay for the company's concessions. Thus ends an enterprise which at one time was an object of some interest to the India-rubber trade, since its projectors had in view a systematized effort to collect rubber wherever found within the territory covered by their concession. Something was done in this direction, and considerable information regarding rubber supplies was collected by the company's superintendent, Mr. Fitzpatrick, who wrote a report on the subject, but the company was generally unsuccessful, and, in the end, glad to resign all its claims to the government. There is no reason, however, why the rubber industry which the company stimulated should not be continued in some form, with shipments from Mombassa and adjacent ports.

A NEW GUTTA-PERCHA INDUSTRY.

THE German-American Gutta-Percha Fuse Works have been incorporated under the laws of Illinois, with \$200,000 capital, for the manufacture of Gutta-percha fuse for use in submarine and underground blasting. Such goods as they propose manufacturing have been made hitherto only in Germany, with special machinery controlled by German patents. The duty on such goods, amounting to 35 per cent., has encouraged this movement toward their production in this country, and the new company will manufacture their own machinery. A site for the factory has not been selected, but it probably will be on the line of some important railway near Chicago. The organization of the company took place on August 22, when the following directors were chosen: Charles H. Wilmerding, general superintendent of the Chicago Edison Electric Co. (president); William D. Pickels, manager of the western office of Warren Webster & Co. (vice-president); Howard H. Fielding, assistant manager of the same company (secretary); Leavenworth K. Davis, also of the same company, and the originator of the new corporation; R. R. Crocker, attorney-at-law; and Herman E. Hoffman, a distiller at Peoria, Ill. No selection of a treasurer has yet been made. The present address of the new company is Room 1502 Monadnock block, Chicago, Ill.

SIR JOHN PENDER AND HIS WORK.

IT would be difficult to say how far the development of ocean telegraphy—and the consequent growth of the use of Gutta-percha—has been due to the intelligent and energetic efforts of Sir John Pender, who is to-day, in spite of his seventy-nine years, an important factor in ten submarine cable companies, to

say nothing of his interests in land-lines. He was one of the original contributors to the fund for the experiments out of which grew the original Atlantic cable, and, when the first cable proved a failure and most other capitalists became discouraged, John Pender came forward with his personal guarantee for \$1,250,000. The success of his good management at this crisis placed him readily at the head of the submarine-telegraph interests of the world. It is due to his persistence that every British possession is now connected with every other part by cable lines. But his interest has not been confined to the British empire—he is chairman of the Brazilian Submarine Telegraph Co., who are taking an active and substantial interest in the proposed cable line between Pará and Manáos, on the Amazon river. In addition to knighthood at the hands of Queen Victoria, Sir John has been honored by the rulers of many other countries in recognition of his distinguished services in connection with ocean telegraphy.

RUBBER NOTES FROM MEXICO.

THE principal India-rubber plantation in Mexico, known as "La Esmeralda," is located near Juguila, in the state of Oaxaca, and is said to contain more than 200,000 trees eight years old. The one next in importance is in the *hacienda* Doña Felipa Ortiz, at Pichucalco, in the state of Chiapas, with 10,000 trees, seven years old. In an official report on rubber culture lately printed at the City of Mexico, it is recommended that young plantations, whether started from the seed or from seedlings drawn from the forest, need shade for a few years. It is also suggested that, while the rubber plants are young, the ground may be profitably cultivated in other crops. In the states of Chiapas and Tabasco the experiment has been made of planting cacao between the rows of rubber, and attaching vanilla vines to the cacao-trees, by which means two sources of profit are afforded while the rubber-trees are attaining an age which permits of their being tapped. The figures which this report contain with regard to the possible profits from rubber-culture are so suggestive of the old-style lottery advertisements that there is danger, should they be repeated here, that THE INDIA RUBBER WORLD might be excluded from the United States mails. There are said to be eight rubber-bearing species in the Mexican forests, though only the *Castilloa elastica* is regarded as possessing real value. In the report referred to the native forests are said to be particularly rich in India-rubber in an area of 1100 square miles in Oaxaca and Chiapas, though the trees also abound in the forests skirting most of the rivers in southern Mexico. Advertisements of lands suited to rubber-culture appear frequently in the Mexican newspapers.

RUBBER IMPORTS IN JAPAN.

IN an extensive table of the imports in Japan during the year 1893, obtained through *Peck's Export Purchase Index* (New York), the following India-rubber items appear:

	Quantity.	Value.
Elastic webbings.....	53,069 yards	\$ 20,886
India-rubber wares.....		124,556
India-rubber—raw.....	6,885 pounds	3,118
India-rubber—sheet.....	55,509 pounds	32,023
Total		\$190,593

No intimation appears in the publication of the reason for the importation of crude rubber by the Japanese, but it probably was for re-export, since the trade of that country with the Asiatic rubber-bearing countries is becoming very varied.

WILLIAM B. BANIGAN.

MR. WILLIAM B. BANIGAN, the general manager of the Marvel Rubber Co., of Providence, R. I., is without doubt the youngest manufacturer of rubber shoes in the United States. He manufactures a specialty, the well known Marvel shoe, which represents a distinct departure from all other types of rubber footwear in that it is unlined and molded.

He is the youngest son of Joseph Banigan, the millionaire president of the United States Rubber Co. Mr. Banigan was born in Jamaica Plain, Mass., December 12, 1864. He went to school in Providence, R. I., where he subsequently lived, and finished at Manhattan College, New York, graduating in 1884. At the age of twenty he entered the factory of the Woonsocket Rubber Co., at Millville, Mass., and under the tuition of P. J. Conley, who was then its superintendent, rapidly mastered the details



WILLIAM B. BANIGAN.

(Through courtesy of the Boot and Shoe Recorder.)

of rubber shoe manufacturing, working in each department until thoroughly proficient. When Mr. Joseph Banigan became part owner and general manager of the Hayward Rubber Co., he took the position of assistant superintendent, retaining it until 1887, when he returned to Millville to assume the charge of the shoe department. He remained at the factory four years when he entered the offices of the Woonsocket Rubber Co. at Providence, and spent two years in learning how to market the goods that he already was well qualified to manufacture.

In 1893 he was elected general manager of the Marvel Rubber Co., and at once started out to increase the sales of the goods. In this he was eminently successful, so much so that additional machinery and greater facilities for manufacture have been several times required and supplied.

Mr. Banigan is a member of the best clubs in and about Providence, where he resides, is an enthusiast on athletics, and as a wheelman has been known to ride 125 miles a day.

A PROPHECY FROM TRENTON.

A WELL known Trenton business man who knows almost as much about F. A. Magowan's affairs as he does himself, said:

"My belief is that Mr. Magowan will get all that he asks from his creditors for the reason that they are well aware that it will mean more money to them in the long run. If they should force him to sell his properties they could not expect to get nearly as much as if they waited."

THE EASTERN RUBBER MANUFACTURING CO.

A RECEIVER of the Eastern Rubber Manufacturing Co.'s property in New York state was appointed by the supreme court on August 7, on the application of Edward H. Alcott, a creditor of the company. The appointee is Rollin M. Morgan, a lawyer of No. 41 Park row, New York, who has given bond for \$8000. The sheriff of New York county had previously received attachments against the property in this city of the Eastern Rubber Manufacturing Co., for amounts of such size that the assets to come into the receivers hands are not likely to be large. The attachments were on notes in favor of Reimers & Meyer, for \$2393; George H. F. Shrader, \$1338 and Freeman B. Rogers, \$1181. Samuel Walker, Jr., receiver in New Jersey for the Eastern Rubber Manufacturing Co., has issued a notice to creditors to file their claims against the company not later than October 7 next.

BRITISH ADMIRALTY CONTRACTS.

BY JOSEPH THOS. WICKS.

JOHN BULL'S yearly requisition for India-rubber supplies for his navy is in striking contrast to Brother Jonathan's requirements.

To instance the current year, eight qualities are specified, to be used for sheets, valves, washers, rings, insertion sheet, packing, hose, tubing, and mats.

The bulk of the contract, however, related to the "best white" quality of solid sheet, of about nineteen cubic inches to the pound. Sheets to be six feet long and upwards, by four feet wide, ranging from $\frac{1}{8}$ inch to 1 inch thick, but chiefly $\frac{1}{4}$, $\frac{3}{8}$ and $\frac{1}{2}$ inch. Seventy thousand pounds of this white solid sheet to be delivered in about ten weeks; or a total for six months of 90,000 pounds of sheet, which included a few hundred valves, and a small quantity of strip rubber.

The value of this best white solid sheet rubber, approximated to £9000 net; and is used for ordinary navy purposes. The admiralty department distributed the remaining qualities among several different factories.

The majority, on this side of the water, have a mania for war-ship building. This creates work in many industries, giving employment to great numbers of workpeople in various trades localities, namely, London, Sheffield, Liverpool, Glasgow and the naval dockyards.

Each war-ship, according to her size, takes from three-fourths of a ton to $1\frac{3}{4}$ tons of India-rubber, in the shape of hexagon washers 7 inches diameter \times 1 inch thick for her armor bolts. These washers are specially compounded.

Manchester, England, July 13, 1895.

SHIPPING ON THE AMAZON AND THE ATLANTIC.

THE four new steamers recently ordered by the Amazon Steam Navigation Co., Limited, for the extension of their already important trade on the Amazon, are to be fitted with the most modern appliances, including a complete electric-light installation for each. The steamers are to be delivered in December and January next. Two are to be built by Russell & Co., of Glasgow, and the others by Gourlay Brothers & Co., of Dundee. This is the line which Mr. Flint talked at one time of buying, though it is not known that he ever made a definite proposition to that effect. Previously a contract had been entered into for the sale of the company's steamers to a Brazilian corporation, but the only result was the forfeit to the sellers of the first installment paid, after which the boats reverted to their former owners. The new contract which has been entered into between the Amazon company and the Brazilian government may be taken as indicating that the effort to have the Amazon navigated only under the home flag will be postponed indefinitely.

"The English are on the Amazon to stay," said a rubber merchant to THE WORLD; "it would be useless to try to dislodge them now. There is a good company, giving a good service, and led by their own interest to stop at every landing where there is a dollar to be picked up. The complaints that you sometimes hear from Brazil are most likely from some politician talking, as we say, 'buncombe,' or from some worthless fellow upstream who gets one letter a year, and who is mad if every passing steamer does not stop to let him know when his letter is coming.

"The Amazon Steam Navigation Co. have all the advantage of a vast amount of experience in their business that was picked up in their 'flush' days. There was a time, in their earlier history, when they didn't know how much money they made, or how much they threw away. Why, they used to distribute dividends of 70 per cent., while all the time they were fairly wasting money through lack of experience with the ways of doing business on the river. But to day they are masters of their business, and now that the fat times of the past are gone forever, they have settled down to apply their costly experience in so managing their affairs as to yield 7 per cent. a year on their capital. A new company, whether based on American capital or any other, would simply have no show in competition with the existing line. It would have to start in without any knowledge of the field or the business, and this is an age of too narrow margins of profits for prudent investors to start in buying experience in competition with a shrewd corporation that already knows it all."

It may be said that the ocean transportation of rubber from Pará is a subject of more interest to the trade at this time than any talk of changing conditions on the Amazon. There has been a steamship rate-war of some importance, centralized particularly on the rubber export trade from Pará to New York. There are three lines which compete for this trade—the Prince, Booth, and Red Cross lines. All their steamers stop at Pará, but as the export trade cannot be said to be extensive, considering the number of vessels, the competition for rubber cargo has become very sharp. The former customary rate was 25 cents per cubic foot, but of late considerable rubber has been carried as low as 10 cents. The companies are all dissatisfied with the existing demoralization, but every one denies any responsibility for it. A recent case is reported in which a steamer was receiving rubber at Pará at the standard rate of 25 cents,

when a competing steamer was sighted bound for the same port. In order to prevent the second steamer from taking another lot of rubber that lay awaiting shipment, the first steamer now accepted it at 10 cents per cubic foot, charging thus two different rates on the same voyage. It doesn't matter very much to the rubber trade what the freight is on rubber; but when different rates are charged, giving one importer sometimes an advantage in the market over a competitor, complaints are certain to be made. About the first of July two of the shipping lines distributed circulars among the exporters, inviting contracts by the year at a fixed rate for freight, with the promise of a rebate at the end of the year to such shippers as had patronized no other line meanwhile, but the proposition failed to find much favor.

"Why should it?" said one importer. "Why a company which solicited our contract on a 25-cent basis has already carried rubber for us at 10 cents."

"Why don't the rubber importers establish a shipping line of their own, and thus control freight charges?" somebody asked.

"When the warm weather is over we mean to study that very subject. This is by no means the first time the question has been asked."

THE PHILADELPHIA COMMERCIAL MUSEUM.

THE objects of this institution are: To bring before American manufacturers the varied products of the world, that they may make the best selection of materials for their own special interests. To publish all possible scientific and useful information concerning these products which may aid the manufacturer and consumer in his choice. To place on exhibition manufactured articles and samples, with full information from all markets which we ought to enter or control, and to furnish useful information concerning opportunities in foreign lands to our merchants and manufacturers.

The commodities received are carefully classified and the various departments are of easy access. Those best equipped at the present time are in the line of woods and textiles, but before long all departments will be so complete that it will be a valuable place for any manufacturer to frequent. A department of especial interest to rubber manufacturers should be the scientific and experimental department. Among other things mentioned that will be carefully tested here are various gums. What a field they have in the one hundred and twenty odd kinds of India-rubber that come into the United States, and what a far wider one in the score of bastard rubber gums that are now intractable and useless.

EX-CONSUL WALLER STILL IN JAIL.

THE late consul to Madagascar, John L. Waller, has been the subject of extensive correspondence between the government at Washington and the French authorities, under whose orders he is now in jail in France under a twenty-years sentence for alleged conspiracy with the Hovas. While nothing has yet been accomplished, it seems to be generally considered certain that the release of Mr. Waller will be effected, while it will be attempted by the United States authorities to secure a liberal indemnity for him, including compensation for the confiscated India-rubber concession at Fort Dauphin.

SUBSTITUTES FOR INDIA-RUBBER.

By Jas. F. Rice.

FOR many years past it has been the dream of hundreds, and among them many chemists of eminence, to manufacture a real substitute for India-rubber. Those sold to-day of course are only partial substitutes, that is, when used alone none of them can take the place of rubber. They are compounded with it, and give it a certain softness, and add cheapness but that is about all.

As a rule the investigators have made their experiments in the line of oxydized oils, perhaps because chemically a thoroughly oxydized oil is theoretically the same as caoutchouc, practically however it is woefully different. English chemists by using certain costly oils have produced a gum that would compound and vulcanize as well as genuine rubber but its great cost made it worthless commercially. An artificial rubber of considerable strength was produced in France by dissolving four parts of nitro-cellulose in seven parts of bromo-nitro-toluol. By varying the proportions a variety of products were obtained varying from soft rubber to vulcanite. In some cases nitro-cumol and its homologues were used in place of the bromo-nitro-toluol.

Glue, glycerine and bichromate of potash, made in a manner like printers rollers but with a fourth secret substance added, form the basis of a singularly rubber-like compound that French ingenuity has produced. It however has about as many defects as it has virtues and is not largely in use, nor will it ever be while rubber is accessible.

In addition to these there have been hundreds of others that have been in a measure successful. One Connecticut inventor produced so good an artificial rubber that a large manufacturing concern had made all arrangements to purchase the secret, when it was found that the vulcanized product had a trick of shrinking after being made up into goods. Not a little but a steady shrink that could not be stopped, until finally it wasted away and left only the fabric upon which it had been spread. At the same time in the face of all those failures, disappointments and successes that were of no commercial value, the rubber trade have ever felt that the day might come when by accident nature's secret might be stumbled upon. As a rule, the more thoughtful believe that if rubber ever is displaced it will be by a series of different products each of which will equal rubber in some particular field rather than one compound that shall have all the varied qualities and excellencies of rubber itself.

In this light therefore it is interesting to examine a recent chemical product that it is claimed may in some degree be a substitute for pure India-rubber.

This new discovery comes primarily from England, where it has found very substantial backing. Moneyed men there have formed a large company, and, employing expert chemists, have for a year or two past been developing the substance. At the same time a company has been working quietly in the United States, under a special license from the parent concern, also developing the discovery. It is said, indeed, that the American laboratories have done fully as much if not more than the English, and have done some things that were at first deemed impossible. As fast as the different combinations thought to be of value are produced they are protected by caveats, so that when the company is finally ready to go into the market with its goods, a variety of patents will be issued. One of the brightest and best known patent attorneys in the United States makes no secret of the fact that he considers these patents of far more

value industrially than the Goodyear patents, and predicts that within a very short time they will work a revolution in the rubber business. As far as can be learned the owners of the processes expect to place their secrets at the disposal of the rubber manufacturers at an early day, the consideration being a small royalty. That is, one kind of compound that has every appearance of hard rubber, except that it can be furnished in any color, will be put before the hard rubber manufacturers for testing, another that is suited for belting will be placed before the manufacturers of mechanical goods, and so on. It is proper to say right here that the substance is made from a waste product that costs only one-half cent a pound, and is so common and abundant that it can be furnished in any quantity without increasing the price one mill.

Speaking of some of the results obtained in America, a well-known chemist says: "In one form it has much the appearance of Ebonite, takes a very high polish, and may be easily grained or colored in the mass. It is quite homogeneous and may be worked in any direction. It has a field for use as insulating material, and in the manufacture of buttons, tool handles, small articles and turned goods generally." * * * In its softer state "it may be caused to resemble morocco leather very closely, and takes all the fine impression of the grain under a proper roll or die." * * * Another form is so porous that "it has been proposed to use it as a substitute for sponges, and there is no doubt that the structure of the sponge can be reproduced. The solution lends itself very readily to admixture with such materials as ground wood, various fibers, clay and other mineral matter, and in each case possesses some novel and useful property."

As already indicated, the capitalists who are backing this enterprise are not anxious at the present time to say much about it. They prefer to develop all there is in this series of discoveries before making a move to market any of their goods. When, however, they do enter the field, their advent will furnish some very interesting reading matter for THE INDIA RUBBER WORLD.

INDIA-RUBBER IN CENTRAL AMERICA.

MAJ. J. ORTON KERBEY of Washington has just come from Tehuantepec, Mexico, where he has been looking up the practicability of raising rubber in Central America. In speaking of his search for the rubber tree in Mexico, Maj. Kerbey says: "I did not find the genuine rubber of the Amazon, the *hevea brasiliense*, in Mexico, but instead a tree of some species of bread fruit, known as the *castilloa elastica* which is only half as valuable. I have discovered that the tree can be cultivated in Central America, in the swamp land, which can be bought very cheap. It is my intention to take the nuts from the Pará rubber tree and plant them in Mexico. It will require seven years before the tree can be tapped. It will then yield one pound of rubber for forty years, which is worth one dollar in gold. One acre will yield \$1000 a year and after the tree is planted no money need be expended except for the gathering of the rubber, and the labor for this can be had very cheap. These cultivated fields will be more profitable than the Brazilian product, because the 21 per cent. duty will not have to be paid and the rubber will not have to be shipped 2000 miles as it now is down the Amazon river."

FOR A RUBBER PLANTATION.

TO THE EDITOR OF THE INDIA RUBBER WORLD: I have just returned from the isthmus of Tehuantepec, where I have purchased land for the purpose of starting a coffee plantation, and have been thinking of attempting the cultivation of the rubber tree of that country, the *Castilloa elastica*. No two persons in that country seem to agree as to the feasibility of the cultivation of that tree, some claiming that the trees cannot be tapped for more than three or four years in succession, and others that the product is considered very inferior and does not bring a good price, while some deny these assertions *in toto*. Can you enlighten me on these points, if it is not asking too much?

FRED FUNSTON.

Lawrence, Kansas, August 15, 1895.

READ THE INDIA RUBBER WORLD.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Please let me know if you publish a rubberman's handbook, also price, as I am desirous of securing a copy.

JOHN STEPHENSON.

Pittsburgh, Pa., August 1, 1895.

WANTS WHITE HARD RUBBER.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Can you tell us where we can get an article molded in white hard rubber, celluloid, or similar substance that is not affected by moisture and will stand a slight amount of pressure, something like the substance used in white combs, the backs of brushes, rulers, etc., would do.

G. B. BASSETT.

Buffalo, N. Y., July 29, 1895.

[It is impossible to make a molded white hard rubber that has any value at all, therefore the substance wanted is celluloid, and we would refer our correspondent to the Celluloid Co., No. 327 Broadway, New York.—THE EDITOR.]

RUBBER STAMPS IN INDIA.

TO THE EDITOR OF THE INDIA RUBBER WORLD: We want to subscribe for your INDIA RUBBER WORLD, and shall therefore feel highly obliged by your kindly sending us a specimen copy, and informing us its annual subscription for India. We are manufacturers of rubber stamps, and shall thank you much should you kindly take the trouble to inform us the name and address of the firm manufacturing the best and cheapest materials and machines for the rubber stamp trade.

B. S. B. PROSHAD.

Bankipore, India, June, 1895.

RUBBER HEELS IN THE ARMY.

THE War Department has lately adopted a rubber-heeled shoe for United States troops. In the efforts to provide a serviceable and comfortable shoe a great many tests have been made. The latest experiment was with a rubber-heeled shoe, and the report thereon was so favorable that it was decided to give this kind of shoe a further trial. The trial was made at Fort Leavenworth, with one hundred pairs. The report shows that the new heel lessened the jar to the body, and added to the comfort of the troops while marching. The endurance of the heel was found to be of ordinary limit, and five hundred pairs will be contracted for to further test its merits. This new demand for rubber will cause quite an increase of trade.

THE PURCHASE OF E. B. PRESTON'S BUSINESS.

W. D. ALLEN & CO. of Chicago have purchased the Czar Bicycle Co., which was a separate organization from the above-named firm although organized by the same stockholders. They have also purchased the brass goods department owned by E. B. Preston and now occupy nearly all of the large building at Nos. 413 to 417 Fifth avenue. The building is 70 ft. x 100 ft. The brass goods and bicycle departments take the entire first and second floors. W. D. Allen & Co. will manufacture everything that E. B. Preston did in the way of automatic couplings, fire supplies, lawn sprinklers and numerous new specialties in brass. The same company have another factory on Lake street, where they manufacture leather belting and piston packings. They are also agents for the Gandy Belting Co. and the New York Belting & Packing Co. The transfer from the firm of E. B. Preston to W. D. Allen & Co., caused no cessation of business, the trade with the executors taking place on Saturday and the new owners taking possession on the following Monday.

ANENT THE SEA SERPENT.

AN interesting tale appears in the Mt. Vernon *Chronicle*, (New York) describing the capture of a sea serpent, by Captain Tom Jones of the yacht *Crocodile*. The adventure is described in a way to make one thrill with enjoyment, which is not lessened when one reads as a climax that on the back of the serpent's neck, just behind the horns was to be seen the following peculiar mark:



QUOTATIONS FOR RUBBER STOCKS.

THE past month was without any incident of note in the trading in Rubber on the New York Stock Exchange. The volume of transactions was small, but it will be seen from the table below that prices have been better sustained than the average during the year:

LISTED ON THE NEW YORK STOCK EXCHANGE.

201,660 shares Common = \$20,166,000
194,005 shares Preferred = \$19,400,500

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
January, 1895...	13,296	45	39 3/4	2,152	94 3/4	91
February.....	9,075	44	39 3/4	1,784	94 3/4	92 1/2
March.....	10,667	41 1/2	37 3/4	4,984	94 3/4	93 1/4
April.....	22,595	41 1/2	39	8,416	94 3/4	93
May.....	78,411	47 1/4	40	11,758	97	93 3/4
June.....	111,158	48	37 1/4	8,257	98	91 3/4
July.....	31,482	42 3/4	39	3,189	94 3/4	93
August.....	13,038	41 1/2	39 3/4	2,440	94 1/2	93 3/4

It is a matter of common report that the current year's business of the company is showing a substantial increase over that of the past year.

RUBBER-GATHERING IN THE SOUDAN.

IN the *Bulletins et Memoires* of the French African Society Mons. P. Bourdarie publishes some notes on rubber-gathering in the Soudan (in the Faranah circle), with reference to five specimens produced by Captain Delaforge, and coagulated by as many different methods. The rubber was obtained from vines, or climbers. A summary of the methods of coagulation follows:

I—WITH AZOTIC ACID.		II—WITH VINEGAR.	
	Grams.		Grams.
Sap.....	250	Sap.....	200
Water.....	500	Water.....	250
Acid.....	6 drops.	Vinegar.....	50
[Time, 1 minute.]		[Time, 1 minute.]	
III—WITH CITRON JUICE.		IV—WITH NATIVE SORREL.	
	Grams.		Grams.
Sap.....	250	Sap.....	400
Water.....	500	Sorrel.....	25
Juice of four citrons.		Boiling water.....	250
[Instantaneous.]		[Time, 2 minutes.]	
V—WITH SEA SALT.			
	Grams.		Grams.
Sap.....	250		
Water.....	250		
Salt.....	5		
[Time, 1 minute.]			

The point of chief interest in these experiments, according to Mons. Bourdarie, does not relate to the length of time occupied in coagulation by the different methods, but to their respective effects upon the value of the product. Thus, in the making of rubber the aim should be to avoid the subsequent fermentations due to gas or water contained in the mass at the time of coagulation, which are apt to give an offensive odor to the rubber. To this cause, he declares, the past inferiority of Kongo rubbers has been due, even more than to the mixture with the sap of such foreign substances as bits of wood, earth, etc. An important question, therefore, is which is the best of the several methods. He is convinced at the outset that the so-called instantaneous process must be objectionable, as being more apt to favor the imprisonment of gas and water, which it is difficult thereafter to completely eliminate by any means. The question has been asked whether it would not be well to import to the Soudan and the Kongo country the rubber-smoking processes of Pará, in which very thin layers of the sap are successively superposed one on another and exposed to the fumes of palm nuts. But Captain Delaforge's specimens are already thin, being in the form of muffins [biscuits?] of 1 to 2 centimeters in thickness.

The writer urges the importance of exploiting the rubber which abounds in the French colonies on the west coast of Africa, to the end that a French market for rubber may be created. "France uses every year 4,000,000 pounds of rubber," he says, "but she has to buy it at Liverpool!"

THE MARKET FOR CHICLE.

RECENT sales of Chicle are reported at 38 cents per pound. According to the Seeger & Guernsey Co, the stocks in the United States are unusually low, amounting to only about 500,000 pounds, while those elsewhere are practically *nil*. The holdings here are in the hands of three or four parties, who are not seeking to make sales, while the chewing-gum manufacturers are buying in a limited way, hoping for good arrivals from the coming crop, and consequent easier prices. It seems that the exports from Mexico during the last season—which is comprised within the months of November to April—were about 800,000 pounds less than during the preceding year, owing to severe drought, which reduced the yield of gum. At the same time the good prices which prevailed here stimulated the gath-

ers to their utmost efforts, and every pound of visible supplies in Mexico was exported. The new season will begin, therefore, with no old gum in stock, while the effects of the drought, it is expected, will continue to be felt for some months. The trees in Campeachy have not yet been touched. In Laguna a small beginning has been made by the gatherers. From Tuxpan some shipments were made as early as July. It is not improbable that Chicle will reach 50 cents before the end of the year. There were sales, in fact, in April and May last, as high as 48 cents. When it is remembered that the chewing-gum trade has sometimes paid as much as \$1 a pound, these figures will not appear an extremely high price.

ENTERTAINED BY THE FIRM.

ON the last day of August, as a wind up to the summer vacations, the officers of the Boston Woven Hose and Rubber Co. invited their salesmen to a day's outing at Gloucester, Mass. Part of the guests went to the meeting place by train, but some of them who are enthusiastic wheelmen took the road from Lynn to Gloucester on their wheels. The day was spent in fishing, bathing and sight seeing, and in the dinner, which latter enjoyment, with its abundant viands, cheering liquids, good cigars, toasts, speeches and songs made a delightful finish to an exceedingly pleasant day. There were present J. Edwin Davis, Treasurer and Manager; Robert Cowan, Superintendent; Willis Darling, sales agent; Chas. H. Tile, Chas. E. Weaver, E. H. McCall, J. O. DeWolf, E. E. Buckleton, B. F. Clifford, W. F. Robinson, H. F. Hering, G. L. Sullivan, F. W. Brown, F. Schwartzkopf, R. F. Hayes, F. D. Hamilton, W. P. Winslow, C. S. Way, E. B. Davidson, G. C. Fiske, A. P. Spear, J. H. Mullen. The company represented the selling force from all over the country, even from San Francisco, where Mr. Buckleton is located.

NEW IDEAS IN RUBBER FROM GERMANY.

A SUGGESTION which possibly may prove of wide interest to architects was embodied in a striking display made at the recent industrial exhibition at Strassburg by the Mannheim Rubber, Gutta-Percha, and Asbestos Factory. The exhibit occupied a floor space of 538 square feet and represented a temple, built entirely of hard rubber. The ten pillars of the temple with their chapters were each made of a single piece of hard rubber, weighing 8818 pounds each. These pillars were the largest pieces ever attempted in hard rubber, but they are even more interesting as proving that hard rubber might be used advantageously for architectural decorations, on account of its waterproof qualities and its ability to successfully resist the action of acids and alkalis. Within the temple the innumerable articles manufactured by the Mannheim company were arranged in groups, as follows: soft-rubber goods, hard-rubber goods, packing, and insulating materials.

A portion of the German navy, says *Die Gummi-Zeitung* (Dresden), has been equipped with rubber boats, which bid defiance to all sorts of weather, and which it is impossible to sink. These boats are rather small, accommodating a few persons only; they have a flat bottom, are sharp at both ends and are adopted for rowing only. Should such a boat capsize,—which can only occur in very stormy weather because the boat rides on the waves,—and get full of water, it is only necessary to remove a plug in the bottom of the boat and let the water run out, the light construction of the boat causing it to lift itself, permitting the water to escape. The boats were constructed in a Berlin factory.

TO PERFORATE VULCANIZED RUBBER.

A REVOLVING punch is most often used for this work, the article being wet where it is to be perforated. Where a fixed punch or ordinary perforator is to be used, it is customary to moisten it with a little oil, or what is better still, with water in which there is a modicum of pulverized pumice.

A GOSSAMER OR CRAVENETTE COAT TENT.

AN Austrian inventor has just persuaded the war department of the United States to test his combination of tent and overcoat. It is made of light waterproof material and would be especially useful on forced marches, and in general where the regular tents are too bulky for advantageous use. It is said to form an excellent protection against storm or cold used either as a tent or a coat. It is easy to put up and take down, and is said to be very durable. It is novel in shape being in the form of a diamond when spread out, and is pierced with two holes where the sleeves are attached. It may have buttons, rings, snaps or cords on the edges, that are of use in either of its dual rôles. To form a tent two soldiers take their coats off, the pieces are then fastened together with a cord that is very easily manipulated. One soldier on the inside sets up his gun

as a tent pole and holds it, while the other having provided himself with rough tent pegs, stretches the tent and fastens the pins in the ground. When pitched it makes a tent ample enough for two men, but of course not nearly as large as those commonly in use.

A DECISION ON MINIATURE TOBACCO POUCHES.

IN the matter of protests of W. H. Crossman & Bro. against the decision of the collector of customs at New York as to the rate and duties chargeable on certain merchandise imported per *New York* and *Umbria* the general appraisers of the treasury department have rendered the following decision: The goods are small India-rubber pouches, less in capacity than a sewing thimble. They were assessed for duty as a smoker's article, and are claimed to be dutiable at 25 per cent. under paragraph 352, act of 1894. It appears from the testimony that the articles were imported as an advertising novelty, to be given away with a small clay pipe with a bowl the size of a pea. From the testimony, and upon examination of a sample, it is found that the merchandise is not suitable for use by smokers, and is not a smoker's article. The claim is sustained that it is dutiable as a manufacture of India-rubber at 25 per cent.

TRADE AND PERSONAL NOTES.

THE New York Mackintosh Clothing Co., on August 1, removed their office from No. 7 Gouverneur street to No. 621 Broadway (the Cable building). They were incorporated in August, 1894, for the manufacture of mackintosh clothing, the making of mackintoshes to order being their specialty. The president of the company is R. H. Welles, who is, and for the last seven years has been, the head of Welles & Co., Limited, also in the mackintosh trade, whose headquarters are at the address above given. The two concerns have a factory at Grand street and East river.

—The Goodyear Rubber Co. (Middletown, Conn.), are having satisfactory results from their artesian well, which has now been furnishing water for about six months. By pumping 4000 gallons per day are obtained. A new 250-horse-power boiler has been placed in the factory, making their boiler capacity 500 horse-power. Estimates have been obtained for the erection of a dynamo for electric-light for the works, instead of depending upon the public lighting company as heretofore.

—Arlington U. Betts & Co. (Toledo, Ohio), have found a demand for their "Red Cross" brands of rubber cement and bicycle sundries in nearly every country where cycling is known. Their books show the receipt, during July, of orders from England, Ireland, France, Germany, Belgium, Holland, Italy, Turkey, Morocco, Liberia, Orange Free State, Cape Colony, British India, China, Japan, New South Wales, Hawaii, Colombia, Peru, Chili, San Domingo, Honduras, Mexico, Canada, British Columbia, and Newfoundland. The Japanese firm representing them have opened a branch-house at Peking and applied for the Chinese agency for "Red Cross" goods.

—Mr. C. Edward Murray, of Trenton, treasurer of the Assanpink Rubber Co., was well up to the front in a bicycle race recently when another rider collided with him. He was thrown and his right arm broken and so badly bruised that he will be obliged to wear it bandaged for weeks.

—The old rubber-mill at Bozrahville, near Colchester, Conn., once owned by the Hayward Rubber Co., has been purchased by a company who intend to use it in the manufacture of tissue-paper.

—The Home Rubber Co. (Trenton) have built a new brick building adjoining their calender and mixing departments where the large vulcanizers are now placed, having been fairly crowded out of the main building.

—Mr. Joseph Banigan's benefaction to the Catholic University of America, at Washington, becomes effective upon the opening of the current scholastic year. The school of social sciences, in which Mr. Banigan has endowed a chair of political economy at a cost of \$50,000, will be under the direction of Professor William C. Robinson, late of Yale College.

—William Lincoln Sage of Boston, the well known jobber of rubber boots and shoes is high up in masonry and was among the busiest of the busy entertaining visiting Knights during the recent festivities in Boston.

—The Astoria Manufacturing Co. have been organized at Berwick, Me., for the manufacture of a substitute for India-rubber. Charles F. Brown (Reading, Mass.) is president and Henry E. Waite (Newton, Mass.) treasurer. The capital named is \$500,000, of which \$500 has been paid in.

—Graphite Grease for Gears. The Joseph Dixon Crucible Co., of Jersey City, N. J., although established in business since 1827, are new comers in our advertising columns. Some time ago they established, in connection with their lead pencil business, a small rubber plant for making erasive rubbers, and rubber pencil tips. They find by actual testing, that the Graphite Grease, which they have manufactured so successfully for general lubrication, is specially adapted for lubricating, and preventing wear of gears on rubber grinding and washing machinery. The graphite grease is waterproof and adhesive, and its base is Dixon's well known Ticonderoga flake graphite.

—F. T. Comee, superintendent of the Woonsocket Rubber Co.'s "Alice" mill, was chief staff in the first division of the great Knights Templar parade at the recent grand conclave in Boston.

—Rubber-shoe dealers have until September 30 in which to get their orders filled by jobbers, before the offer of the extra 5-cent, rebate is withdrawn, and the jobbers expect a busy month to the end.

=Mr. W. H. Bennett, Supt. of the Erie Rubber Co. was a recent visitor to Boston.

=The Recovered Rubber Works, Limited, have been incorporated, with £20,000 capital, to take over the business now carried on by Grimshaw Brothers, at the Recovered Rubber Works, Clayton, Manchester, England. The directors are J. Grimshaw, H. Grimshaw, and T. Rowley.

=William Somerville's Sons (Liverpool), who were the British agents for the Rubber Reclaiming Co. (New York), which recently went into liquidation, will continue to supply manufacturers with reclaimed rubber, as agents for the Philadelphia Rubber Works. By the way, the goods which they supplied formerly were mainly the product of Colonel Mitchell's works.

=The Columbia Pneumatic Wagon Wheel Co. (Oneida, N. Y.) have been reorganized, with an increase of capital to \$100,000, on account of the growing demand for pneumatic-tired vehicles. They have equipped an omnibus for one of the Oneida hotels with 2½-inch single-tube rubber tires, which are reported to give entire satisfaction. The vehicle weighs 1600 pounds.

=Testimony is being taken at Chicago in suit of Morgan & Wright v. The B. F. Goodrich Co., for alleged infringement of the patents on the "M. & W." bicycle-tires. Similar suits are being prosecuted against the Newton Rubber Works and the Eastern Rubber Manufacturing Co. The result of the suit will be either to establish the Morgan & Wright patents or throw them open to the public. The sole contention is that of prior use.

=Roger B. McMullen & Co. (New York and Chicago) have taken the selling agency for the "Diamond" bicycle-tires. The Diamond Rubber Co. (Akron, Ohio) were incorporated only a little more than a year ago and began in a small way, but they already occupy a factory ten times as large as at the beginning and employ 250 hands. Besides bicycle- and vehicle-tires, they manufacture hose, belting, and rubber specialties. The officers are: O. C. Barber, president; J. K. Robinson, vice-president; E. L. Toy, general manager and treasurer; Frank Reifsnider, manager sales department; P. B. Johnston, secretary, and Walter Serbondy, superintendent. McMullen & Co. were formerly selling-agents for the "Hartford" tires.

=New manufacturing arrangements have been made for the fountain syringe, with thermometer attachment, invented by Dr. Ferdinand King and described in THE INDIA RUBBER WORLD for March last. It is now made by the Charles Roome Parmelee Co., No. 98 William street, New York, and is said to be meeting with much favor in the medical profession.

=Sterling Elliott is suing W. S. Frazier & Co. (Aurora, Ill.) for alleged infringement of a patent on applying pneumatic tires to sulkies, granted to him in June, 1892. At a recent hearing in Chicago, Frazier & Co. offered testimony to show the prior use of pneumatic-tired sulkies, instancing the trial of such a vehicle at Rochester, N. Y., on September 22, 1891, by M. P. Ketchum. The makers of this sulky were A. Featherstone & Co., of Chicago.

=The question of electric lights for the village of Millville, Mass., is now under discussion, and it has been suggested by some of the citizens that it would be wiser to obtain light from the excellent plant of the Woonsocket Rubber Co. than to install a separate electrical plant for public use.

=At the late half-yearly general meeting of the Telegraph Construction and Maintenance Co., Limited (London), an *interim* dividend of 12s. per share was declared, being at the rate of 10 per cent. per annum. It was announced that though cable-laying had been at a standstill of late, their Gutta-percha work was better than at the same date last year.

=The Manhattan Rubber Manufacturing Co. have just completed the extensive improvements begun last year at their works at Passaic, N. J., by the extension of their water system, both for fire-protection and for mill use. The source of supply is an artesian well, which has been fitted hitherto with a Worthington pump having a capacity of 500 gallons per minute. A second Worthington pump, just added, will double this capacity. A storage tank of 70,000 gallons has been added to the former tank capacity (including 10,000 gallons in the tower) of 40,000 gallons. The facilities for fire-protection now exceed the requirements of the insurance companies.

=The United States Rubber Co. have filed a certificate with the secretary of state of Missouri that the amount of their capital represented by property owned by them in that state is \$1,000,000.

=Percy S. Taylor, charged with committing forgeries to the extent of \$8000 while employed as bookkeeper for Ellis & Goltzman, manufacturers of druggists' sundries at No. 88 Leonard street, New York, was sentenced by a New York court to the state reformatory. Taylor is a married man, with several children.

=George Talbot Parsons, recently in the employ of George B. Gurley & Co., dealers in elastic webbings, at No. 107 Franklin street, New York, is under indictment for grand larceny and forgery on charges preferred by that firm. He was placed under arrest on September 5.

=Fire at Cleveland, Ohio, on August 24, destroyed the extensive Williamson block, including the contents of the store of the Goodyear Rubber Co., on the ground floor.

=The buildings of the mackintosh factory of the new Conant Rubber Co. (South Framingham, Mass.), have been practically completed and the machinery has been put in place. They have a superior power plant, over which towers a brick chimney 80 feet in height.

=R. H. Griffin, western agent for the Jersey and Meyer Rubber Companies, was in Baltimore on September 4, to attend the funeral of a brother.

=Rumor comes from Bridgeport, Conn., that Carroll, the well-known rubber substitute maker, has gone to Cuba to manufacture high explosives to blow up the Spaniards. What lends credibility to the tale is the fact that Mr. Carroll has long experimented in explosives.

=On the first of September Henry F. Knowles (Globe Rubber Works, Boston) removed from No. 49 Federal to 111 Congress street. His new location is on the ground floor, has five large show windows, and contains about 5000 sq. ft. of floor space. It is fitted new throughout and makes as fine a store and wareroom of mechanical rubber goods as could be desired.

=Mr. G. B. Widner, Gen'l Mgr. of the Pacific Rubber Co. (New York) took a vacation in Schooleys Mountains, Penna., during August.

=Mr. H. F. Taintor (New York) spent August at Lake Champlain bass fishing.

=F. M. Hartshorne, secretary and treasurer of the Pacific Rubber Co. (New York) is the owner of a 38-foot sailing yacht, the *Majel*, and therefore as often as business would permit was away to New London during the hot weather.

=Mr. E. H. Cutter, of the Woonsocket Rubber Co., has a summer place quite near President Cleveland's "Gray Gables."

=Mr. George P. Whitmore, of the Boston Belting Co., as chairman of the entertainment committee of the Gethsemane Commandery, Newton, proved himself the right man in the right place. The visiting Knights were enthusiastic in their appreciation of the hospitalities that Gethsemane extended.

—Mr. H. O. Canfield of Bridgeport, Conn., and Mr. Wilson, the proprietor of the Housatonic Rubber Works of the same city, were among the recent visitors to Boston. Both of them are Knight Templars and were in full uniform.

—The offices and warehouse of the Boston Belting Co. on Devonshire street, Boston, were decorated with flags, bunting, and emblems, during the recent "Triennial," and many knights who have business connections with the firm stopped for a word of greeting.

—Treasurer Eustis and Superintendent Comstock of the American Rubber Co., Boston, are both members of Boston Commandery and were in evidence during the "conclave" and helped dispense the hospitalities of the Hub.

—Geo. A. Alden was among the prominent Knight Templars of Boston who contributed generously to the entertainment fund for the recent festivities, but he could not be induced to don his uniform and march.

—The Hodgman Rubber Co. have adopted the "Cable System for Refining Rubber," securing a license from Mr. Wheeler Cable of Boston.

—The New York Belting and Packing Co. have a fine exhibit of mechanical rubber goods, druggists sundries, clothing, tires, and specialties, among which is their interlocking tiling, at the Mechanics Institute Fair in San Francisco, California. So unique and comprehensive is the exhibit that the *Evening Post* of that city devotes a long article to its description.

—Zachary T. Lindsey, the extensive rubber merchant of Omaha, is the president of the association under whose auspices the Nebraska state fair will be held on September 16-20. This is an institution in which not only Omaha but the state at large takes a deep interest, and Mr. Lindsey has done not a little to contribute to its success.

—T. S. Buck (No. 125 Worth street, New York) has had his flexible rubber stamps patented in the United States, Canada, Great Britain, Germany, France, and Italy. He lately went abroad and established a branch house at 35 Charles street, London. Two manufacturers in Canada are making his stamps under royalty. He manufactures solid rubber type as well as stamps, and now has seven men on the road selling his goods.

—W. W. Wilder, manufacturer of cravenette and mackintosh garments at Hudson, Mass., is being urged by the Merchants' Protective Association of Marlboro to remove to the latter place, it being understood that his business has become too extensive for his present quarters.

—John H. Farrell & Co., of Boston, have leased for five years two floors in a large building in Hyde Park for the manufacture of rubber garments.

—The exports of India-rubber from British India for the fiscal year 1894-95 amounted to only 1,038,240 pounds, against 1,076,992 pounds for the preceding year, and 1,116,864 in the fiscal year 1892-93.

—The Goodyear Vulcanite Co. (New York) have recently made important additions to their plant at Morrisville, Pa. They are manufacturers on a large scale of hard-rubber goods, including combs, druggists' sundries, telegraph and telephone sundries, etc., but their increased facilities have been planned with a view to a larger production of electrical goods. They have secured the services, as superintendent, of George Pelling, lately of Akron, Ohio, and will control the manufacture of the various articles covered by his patents. Two new two-story buildings have been erected, one 50x125 feet, and the other 30x100 feet. A smokestack 100 feet high has been built. The additional plant includes two 150-horse-power boilers, one 200-horse-power engine, and fifteen hydraulic presses, with an accumulator. The active management of the company is in the hands of T. Harry Holmes, treasurer, and M. Dittenhoefer, secretary and general manager.

—Alberto Falcon, of the house of W. R. Grace & Co., and for some time past vice-consul at New York for Peru, has been promoted to the office of consul.

—The Hope Rubber Co., of Providence, R. I., will open a general rubber store at New Bedford, Mass., stocked with rubber clothing and footwear and druggists' sundries.

—Vice-president Evans last month invited a number of selling-agents and superintendents of the company's factories on a cruise on his yacht, the *Toinette*, lasting from Monday, August 12, to Friday. Embarking at Providence, they visited Newport harbor and cruised about the war ships, thence to Narragansett Pier and New London, where the guests were entertained at the Pequot House over night. The next day they sailed to Shelter Island, thence around to New Haven, and back to Providence.

—The long-established firm of A. C. McGraw & Co., of Detroit, Mich., was dissolved by mutual consent on September 1. The leather-shoe business of the firm has been disposed of, and the business of jobbing rubbers will be continued by a new firm—W. A. McGraw & Co. The head of the new firm is a son of A. C. McGraw, who founded the house sixty-three years ago. They will handle the Boston Rubber Shoe Co.'s goods.

INDIA-RUBBER ARRIVALS AT THE PORT OF PARA.

During the Crop Year of 1894-95.

[NOTE.—The figures below result from converting the Kilogram at 2.2 Pounds.]

MONTHS.	PARÁ.		AMAZONAS.				PERU and BOLIVIA.	TOTAL RUBBER.	CAUCHO.	GRAND TOTAL.
	Itaituba.	Other Districts.	Manaos.	Madeira.	Jurua.	Puris.				
July, 1894...	39,754	1,022,635	120,789	152,737	19,325	7,044	143	1,362,427	133,573	1,496,000
August.....	105,747	1,089,035	164,864	672,738	34,802	324,434	20,891	2,412,511	205,489	2,618,000
September.....	123,313	1,633,623	712,879	327,248	30,253	19,261	587	2,847,094	12,906	2,860,000
October.....	73,645	2,088,486	683,795	597,535	.....	226,035	230,624	3,900,120	169,880	4,070,000
November.....	99,695	2,207,392	982,212	280,927	380,708	399,062	145,418	4,495,414	102,586	4,598,000
December.....	141,535	2,469,782	1,148,162	419,760	318,326	85,934	.....	4,583,499	14,501	4,598,000
January, 1895...	155,364	1,652,312	2,279,765	384,925	772,310	1,419,889	386,615	7,051,180	516,820	7,568,000
February.....	221,784	1,252,299	1,352,268	414,372	284,935	1,478,281	220,271	5,224,210	319,790	5,544,000
March.....	314,846	863,009	1,541,679	528,126	114,523	240,557	159,526	3,762,266	329,734	4,092,000
April.....	122,157	480,361	641,225	118,541	.....	107,771	40,535	1,510,590	337,410	1,848,000
May.....	22,313	495,642	385,277	86,783	136,743	155,934	53,271	1,335,963	490,037	1,826,000
June.....	17,116	1,061,069	207,442	81,195	13,002	1,122	1,388	1,382,334	333,666	1,716,000
Total.....	1,437,169	16,315,645	10,220,357	4,064,887	2,104,957	4,465,324	1,259,269	39,867,608	2,966,392	42,834,000
Percentage..	3.353	38.090	23.860	9.484	4.913	10.493	2.034		6.943	100

=Among the improvements made at the Edgeworth factory of the Boston Rubber Shoe Co. this season is a new boiler-house with a chimney 125 feet high—the tallest in Malden. Its construction required 140,000 bricks. Five large boilers have been added. Considerable new construction has been added besides the above, including a four-story addition on the Commercial-street front.

=President George H. Hood, of the Boston Rubber Co., sailed from New York for Liverpool on August 14, for an absence of about three weeks.

=The Puritan Rubber Co., a new concern, has started the manufacture of mackintoshes and cravenettes in Brockton, Mass. Edwin P. Severance is the president of the concern, the manufacturing end is in the hands of Charles La Chance.

REVIEW OF THE INDIA-RUBBER MARKET.

THE impression seems general that all excuses for talking about business depression in the United States are rapidly disappearing, and that the country is approaching a new era of prosperity. In fact, the newspapers which were, not so long ago, doing most to frighten their readers with pictures of impending ruin, are now equally active in collecting statistics to correct the impressions then made. Undoubtedly the business prospect is a favorable one, but THE INDIA RUBBER WORLD feels disposed to stand on the ground which it held from the first, that there never was any reason for the country to go into mourning because some industries had been overdone and a good many railroads had been swamped in the attempt to earn dividends on an artificial capitalization. It is the same with the whole country as with an individual—confidence may be shaken by a very slight cause when there has been an undue expansion of credit operations, and it is better to stop short now and then for liquidation than to go on at a blind pace, endangering a real catastrophe. During the past two or three years, first the silver-purchase law and later tariff revision, have been the ostensible causes of the unsettlement of affairs, though the truth is that the real foundations of our national prosperity are little touched by any such questions, and the concerns which were prudent with respect to the use of their credit are still where they belong—in the lead in business affairs. The fact is that bad news always attracts more than the proper share of attention. If 1 per cent. of the business enterprises of the country should become embarrassed to-day, more would be heard of the fact than about the ninety-nine solid men in every hundred; hence the exaggerated ideas of "hard times" which now and then get abroad.

The India-rubber trade, in its various branches, as has already been pointed out in these pages, affords a good illustration of a well-managed business, and it is to-day, as it has been all the while, in a healthy condition, but not on account of any possible phase of the silver question or of tariff adjustment. Of course, when the railroads were at their worst period of reorganization, their purchases of rubber supplies declined, and other instances might be pointed out to illustrate the bad effects of the "panic," unavoidable in the general interdependence of industrial and other interests. And yet such is the diversified character of industries in this great country that the misfortune of no one of them can seriously damage the rest. Most branches of the rubber trade, indeed, have not been visibly affected. The word depression has been unknown in the bicycle-tire trade; the rubber-shoe production has increased steadily, with a corresponding increase of profits; and the constant development of electrical interests has called for more rather than less India-rubber. There is no better indicator of the condition of the rubber trade as a whole than a study of the volume of consumption of the crude material. Everybody knows that our people do not buy India-rubber except for factory consumption, and the government figures printed elsewhere show that the imports of crude gum for the fiscal year 1894-95 were exceeded only once before in our history, and that by only a trifle. In other words, after a phenomenally heavy importation in

1892-93, a falling off of a few millions pounds in a single year following allowed for the consumption of stocks in the hands of manufacturers, plus the reduced demand for rubber goods as a whole, and now in the year just closed the imports have jumped up again almost to the highest notch ever reached.

The reports of better times, therefore, while pleasant reading for rubber-men as they are for other people, have but slight effect on the crude-rubber market. The manufacturer who has enough material in his store-house for the consumption of his factories until February, will not buy rubber now more freely because of prospects of "better times." He doesn't need to buy, and that is a sufficient answer to the seller. The manufacturer who, on the other hand, is short of rubber, will supply his wants, but will be influenced less by reports of general trade conditions than by the individual conditions of the rubber crop. Just now, for instance, at the beginning of a new crop year, with indications of a good supply from the Amazon, he will buy sparingly, instead of paying a high figure for rubber through the incentive of good business coming.

The advance in Pará rubber which has prevailed since the middle of last month is attributed chiefly to delayed receipts at Pará, on account of which available supplies were smaller than had been expected. The rubber in question has now reached the market, however, or is afloat, so that, if the supposition above quoted be correct, the advance will prove only temporary. This belief is strengthened by the fact already stated that the opening season promises a heavier yield than that of last year.

Buying in New York at this time is of a hand-to-mouth character, as nearly all the large manufacturers are well supplied and will wait for increased receipts at Pará before coming into the market. Receipts at Pará for the two months of the new crop show 70 tons increase over the same time last year, and September receipts are estimated at 1600 tons against 1300 tons in September, 1894. The world's deliveries continue to run behind same time last year.

The latest quotations in the New York market are:

Pará, fine, new t a...	73 @74	Benguela.....	46 @47
Pará, fine, old.....	78 @81	Kongo Ball.....	36 @40
Pará, coarse, new t a	47½ @57	Cameroon Ball.....	36 @38
Caucho (Peruvian) strip	46 @47	Flake, Ord and Lump..	23 @24
Caucho (Peruvian) ball	52 @53	Accra Flake.....	15 @18
Mangabeira, sheet....	39 @42	Liberian Flake.....	26 @27
Esmeralda, sausage..	52 @53	Primest Pinky Madr..	58 @60
Guayaquil, strip.....	35 @44	Madagascar, black...	43 @45
Nicaragua, scrap.....	51 @53	Borneo.....	26 @
Nicaragua, sheet....	49 @50	Gutta-percha, fine grade	1.30
Thimbles.....	34 @35	Gutta-percha, medium..	1.00
Tongues.....	35 @37	Gutta-percha, hard white	85
Sierra Leone.....	25 @42		

The English market during August has shown about the same conditions of moderate business as has been ruling on this side. While the manufacturers have taken a fair amount of rubber of all kinds for immediate requirements, there has been a very moderate business doing for future deliveries, for the reason that buyers have been holding off expecting lower prices, while sellers were not inclined to put out shorts so early

in the crop. The principal sales in England during August were:

115 tons Accra Buttons prime, 1/9@1/9½.
12 " Cameroon, 1/5½.
30 " Lagos, 1/4½@1/5¼.
125 " Benguela Niggers, 1/10½.
100 " Fine Pará, 36½ (for new) to 37¾d. (for old).
10 " Manaoas Scrappy Negro head, 2/4¼.
40 " Akassa Niggers, 1/2¼@1/3¼.
60 " Thimbles, 1/4@1/4¼.
5 " Mozambique Ball, 2/1.

The following quotations are reported by mail from Liverpool, for medium kinds:

Kongo ball..... 1/9½	Cameroon Ball.... 1/5¼
Gaboon ball..... 1/6 @1/7	Cameroon Clusters 1/8½@1/9
Small tongue..... 1/3	Batanga Ball 1/5¼@1/6
Bold tongue..... 1/5¼@1/5½	Old Calabar 1/5@1/5½
Flake..... 11d	Sierra Leone Nig- gers..... 1/1 @2/1
Lump Flake..... 11½d	Gambia Niggers, prime..... 2/0½
Small ball..... 1/4½@1/5nom	Gambia Niggers, low to fair..... 1/0 @1/9
Thimbles..... 1/4½@1/4¾	Addah Niggers... 1/7 @1/7½
Cape Coast and Saltpond..... 1/1 @1/3	Benguela Niggers. 1/10¼ f.o.b.
Accra strips..... 1/11¼	Loanda Niggers... 2/5½
Accra biscuits, best quality..... 1/9½	Manoh Twists.... 2/2½
Accra Common Soft 1/0½@1/0¾	Mangabeira..... 1/5 @1/7
Accra Paste..... 7½d@9d	
Axim and Assinee. 1/5¼@1/5½	

In regard to the financial situation, Messrs. Simpson & Beers, brokers in crude India-rubber and commercial paper (New York), advise us as follows:

"August witnessed a decidedly stiffer money market, owing to a much improved general business, and to continued gold exports throughout the month. Hence we revise our rates for mercantile paper on a higher basis, viz.: First class receivables, 4½ @ 5 per cent.; first-class single-names 5½ @ 6 per cent. all four to six months to run. City banks have been frequently out of the market, and have bought only at full rates."

The statistical position of Pará rubber in New York and elsewhere is as follows, the figures expressing tons of 1000 kilograms:

	Fine and Medium.	Coarse.	Totals.	Totals 1894.
Stock, July 31	240	71	311	= 1088
Arrivals, August.....	175	105	280	= 432
Aggregating.....	415	176	591	= 1520
Deliveries, August.....	217	140	357	= 528
Stock, August 31.....	198	36	234	= 992

	1895.	1894.
Stock in England, August 31.....	990	960
Deliveries in England, August.....	575	622
Pará receipts, August.....	980	1190
Stock in Pará, August 31.....	110	475
World's supply August 31 (excluding Caucho)....	2108	2959
Pará receipts since July 1.....	1940	1870

OTHER NEW YORK ARRIVALS.

BELOW will be found in detail the imports at New York during August, 1895, of India-rubber from Mexico, Central America, and South America, other than Pará grades; also, arrivals at New York of African and East Indian sorts:

CENTRALS.

	POUNDS.
AUG. 2.—By the <i>Claribel</i> =Livingston:	
Eggers & Heinlein.....	1,000
K. Mandell & Co.....	800
Total.....	1,800
AUG. 5.—By the <i>El Dorado</i> =New Orleans:	
A. T. Morse.....	10,000

Earle Brothers.....	5,000
Total.....	15,000
AUG. 2.—By the <i>Finnee</i> =Colon:	
Flint, Eddy & Co.....	6,500
A. Santos & Co.....	2,800
I. Brandao & Bro.....	876
Total.....	9,176
AUG. 2.—By the <i>Justin</i> =Maranhão:	
G. Amsinck & Co.....	300
Herbst Brothers.....	200
Total.....	500
AUG. 3.—By the <i>Panama</i> =Vera Cruz:	
Perkins & Welsh.....	500
Graham, Hincley & Co.....	400
Total.....	900

PRICES FOR AUGUST (ISLAND RUBBER).

	1895.	Coarse.	1894.	Coarse.	1893.	Coarse.
Fine.....	71	46	65	42	66	43
Highest.....	73	48	67	45	66	43
Lowest.....	70	45½	65	41	65	41
Last.....	73	47½	67	45	66	42

IMPORTS FROM PARA.

THE receipts of India-rubber direct from Pará and Manaoas at the port of New York since our last publication are reported in detail below, the figures referring to pounds:

August 14.—By the steamer *Hubert*, from Manaoas and Pará:

	Fine.	Medium.	Coarse.	Caucho.	Total.
New York Commercial Co.	85,100	12,900	33,300	1,500	132,800
Reimers & Meyer.....	18,500	7,500	23,900	2,000	51,900
Shipton Green.....	12,900	400	1,300	29,700	44,300
George G. Cowl.....	3,500	900	4,400	.....	8,800
Lawrence Johnson & Co..	5,400	2,100	4,200	1,700	13,400
K. Mandell & Co.....	.....	.....	.....	6,900	6,900
G. Amsinck & Co.....	300	.....	2,600	700	3,600
Boston Rubber Shoe Co..	2,100	700	700	.....	3,500
P. Lima.....	1,900	.....	900	.....	2,800
Totals.....	129,700	24,500	71,300	42,500	268,000

August 24.—By the steamer *Theresina*, from Pará:

New York Commercial Co.	33,400	5,000	27,000	56,000	121,400
Reimers & Meyer.....	42,800	11,400	33,300	44,400	131,900
Lawrence Johnson & Co..	1,400	1,800	9,000	.....	12,200
Otto G. Mayer & Co.....	.....	.....	10,200	.....	10,200
P. Lima.....	1,600	.....	900	.....	2,500
Totals.....	79,200	18,200	80,400	100,400	278,200

September 3.—By the steamer *Fluminense*, from Manaoas and Pará:

New York Commercial Co.	52,000	7,100	31,700	31,900	122,700
Reimers & Meyer.....	57,800	22,900	42,300	2,700	125,700
Boston Rubber Shoe Co..	22,300	4,800	3,400	600	31,100
C. Ahrenfeldt & Son.....	100	.....	100	58,400	58,600
Lawrence Johnson & Co..	8,200	700	5,400	.....	14,300
Shipton Green.....	3,700	.....	1,000	4,800	9,500
P. Lima.....	2,400	200	2,900	.....	5,500
To order.....	2,100	.....	.....	.....	2,100
Totals.....	148,600	35,700	86,800	98,400	369,500

August Imports from Pará.....	766,500
July Imports.....	666,200
June Imports.....	1,030,100
May Imports.....	1,651,400
April Imports.....	2,156,400
March Imports.....	3,611,700
February Imports.....	2,274,400
January Imports.....	2,869,500

PARA IMPORTS VIA EUROPE.

August 14.—By the steamer *Majestic*, from Liverpool:

Reimers & Meyer (Coarse).....	7,000
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August 27.—By the Steamer *Georgic*, from Liverpool:

Reimers & Meyer (Fine).....	10,000
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August 28.—By the Steamer *Teutonic*, from Liverpool:

Reimers & Meyer (Fine).....	11,000
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AUG. 4.—By the *Cuvier*=Bahia:

Reimers & Meyer.....	8,000
New York Commercial Co.....	2,000
Total.....	10,000

AUG. 5.—By the *Louisiana*=New Orleans:

A. T. Morse.....	4,000
W. H. Crossman & Bro.....	3,000
Earle Brothers.....	2,000
Total.....	9,000

AUG. 7.—By the *Ora*=Cuidad Bolivar:

Thebaud Bros.....	8,000
Jose Agostini.....	14,000
Total.....	22,000

AUG. 7.—By the *Segurama*=Mexico:

H. Marquardt & Co.....	200
Jose Agostini.....	200
E. N. Tibbals.....	100

Total	500
AUG. 7.—By the <i>Alleghany</i> =Savanna:	
Ellinger Bros	1,000
For London	500
Total	1,500
AUG. 12.—By the <i>Newport</i> =Colon:	
Samper & Juinez	1,002
J. Aparicio & Co.	643
Munoz & Espriella	603
W. Loaliza & Co.	458
F. Probst & Co.	40
Total	3,146
AUG. 13.—By the <i>Afisa</i> =Cartagena:	
D. A. De Lima & Co.	4,000
Flint, Eddy & Co.	2,500
Kunhardt & Co.	2,000
E. Cortes & Co. (London)	2,500
Total	11,000
AUG. 14.—By the <i>Alliance</i> =Colon:	
Munoz & Espriella	7,000
A. Santos & Co.	5,500
Roldan & Van Sickle	3,500
George R. Cottrell & Co.	3,500
I. Brandon & Bro	2,500
W. R. Grace & Co.	2,500
Dumarest & Co.	1,100
G. Amsinck & Co.	800
W. Loaliza & Co.	200
Total	26,300
AUG. 14.—By the <i>City of Washington</i> =Mexico:	
H. Marquardt & Co.	200
L. Monjo, Jr. & Co.	200
Graham, Hunkley & Co.	200
E. Steiger & Co.	200
Total	800
AUG. 15.—By the <i>Hevelius</i> =Bahia:	
Reimers & Meyer	7,000
AUG. 15.—By the <i>El Rio</i> =New Orleans:	
Earle Bros	4,500
AUG. 19.—By the <i>Alene</i> =Cartagena:	
Panderford & Co.	500
For London	8,000
Total	8,500
AUG. 21.—By the <i>Orizaba</i> =Mexico:	
H. Marquardt & Co.	200
E. Steiger & Co.	200
For Hamburg	500
Total	900
AUG. 22.—By the <i>City of Pard</i> =Colon:	
Andreas & Co.	5,250
Munoz & Espriella	1,508
G. Amsinck & Co.	1,659
D. A. De Lima & Co.	1,543
George R. Cottrell & Co.	885
R. G. Barthold	238
J. M. Ceballos & Co.	3,780
J. Ferrer	2,400
Total	17,331
AUG. 22.—By the <i>Iravaddy</i> =Cuidad Bolivar:	
Jose Agostini	56,000
Thebaud Bros	1,600
Total	57,600
AUG. 23.—By the <i>Advance</i> =Colon:	
Flint, Eddy Co.	3,896
New York Commercial Co.	11,400
W. R. Grace & Co.	6,100
A. N. Rotholz & Co.	1,257
Geo. R. Cottrell & Co.	1,110
I. Brandon & Bro	570
Roldan & Van Sickle	2,912
Dumarest & Co.	913
A. Santos & Co.	3,200
Total	30,358
AUG. 26.—By the <i>El Mar</i> =New Orleans:	
A. T. Morse	6,000
F. H. Robinson	2,500
Total	8,500
AUG. 27.—By the <i>Adirondack</i> =Cartagena:	
D. A. de Lima & Co.	1,500
Panderford & Co.	2,000
Ellinger Bros	500
Flint, Eddy & Co.	300
Total	4,300
AUG 28.—By the <i>Yumuri</i> =Mexico:	
L. Monjo, Jr. & Co.	200

AUG. 28.—By the <i>Coleridge</i> =Bahia:	
Reimers & Meyer	2,000
AUG. 31.—By the <i>Colombia</i> =Colon:	
J. A. Aparicio & Co.	4,711
G. Amsinck & Co.	1,761
Eggers & Heinlein	728
Total	7,200
Total Centrals for August	259,101
Total for July	185,956
Total for June	194,370
Total for May	317,000
Total for April	168,072
Total for March	290,283
Total for February	239,251
Total for January	341,029

AFRICANS.

AUG. 1.—By the <i>Palatia</i> =Hamburg:	
E. W. Gomers	8,000
AUG. 3.—By the <i>Umbria</i> =Liverpool:	
George A. Alden & Co.	23,000
Reimers & Meyer	6,500
Total	29,500
AUG. 5.—By the <i>Cevic</i> =Liverpool:	
George A. Alden & Co.	44,500
Charles Fournier	21,500
Total	66,000
AUG. 9.—By the <i>Britannic</i> =Liverpool:	
William A. Brown & Co.	2,500
AUG. 13.—By the <i>Tauric</i> =Liverpool:	
To Order	6,000
AUG. 15.—By the <i>Patria</i> =Hamburg:	
George A. Alden & Co.	47,600
Reimers & Meyer	6,000
E. W. Gomers	4,300
Total	57,900
AUG. 16.—By the <i>New York</i> =Southampton:	
Reimers & Meyer	15,000
E. W. Gomers	2,700
Total	17,700
AUG. 16.—By the <i>Werkendam</i> =Rotterdam:	
Bock & Co.	15,400
AUG. 17.—By the <i>Etruria</i> =Liverpool:	
George A. Alden & Co.	85,500
AUG. 18.—By the <i>La Gascogne</i> =Havre:	
Reimers & Meyer	15,000
AUG. 19.—By the <i>Nomadic</i> =Liverpool:	
Reimers & Meyer	49,400
AUG. 22.—By the <i>Prussia</i> =Hamburg:	
George A. Alden & Co.	12,000
Reimers & Meyer	22,700
E. W. Gomers	5,900
Total	40,600
AUG. 23.—By the <i>Germanic</i> =Liverpool:	
George A. Alden & Co.	2,000
AUG. 23.—By the <i>Campania</i> =Liverpool:	
George A. Alden & Co.	53,000
American Wringer Co.	5,000
Total	58,000
AUG. 27.—By the <i>Georgie</i> =Liverpool:	
Reimers & Meyer	50,000
AUG. 30.—By the <i>Phoenicia</i> =Hamburg:	
George A. Alden & Co.	12,000
AUG. 30.—By the <i>Moravia</i> =Hamburg:	
George A. Alden & Co.	6,400
Total Africans for August	524,400
Total for July	516,400
Total for June	322,600
Total for May	884,100
Total for April	367,200
Total for March	374,554
Total for February	441,500
Total for January	582,000

EAST INDIAN.

AUG. 1.—By the <i>Palatia</i> =Hamburg:	
E. W. Gomers	10,000
AUG. 5.—By the <i>Cevic</i> =Liverpool:	
George A. Alden & Co.	3,000
Reimers & Meyer	10,000

Total	13,000
AUG. 5.—By the <i>Ethiopia</i> =Glasgow:	
George A. Alden & Co.	2,000
AUG. 6.—By the <i>Mississippi</i> =London:	
Reimers & Meyer	23,300
AUG. 9.—By the <i>Dania</i> =Hamburg:	
Robert Soltau & Co.	7,500
AUG. 12.—By the <i>Berlin</i> =Southampton:	
Reimers & Meyer	31,000
Gutta Percha and Rubber Manufacturing Co.	8,000
Total	39,000
AUG. 12.—By the <i>Greece</i> =London:	
Reimers & Meyer	45,000
AUG. 13.—By the <i>Mohawk</i> =London:	
Wm. A. Brown & Co.	70,000
Reimers & Meyer	10,000
Gutta Percha and Rubber Manufacturing Co.	3,000
Total	83,000
AUG. 16.—By the <i>New York</i> =Southampton:	
Reimers & Meyer	8,200
AUG. 19.—By the <i>Nomadic</i> =Liverpool:	
George A. Alden & Co.	9,600
AUG. 24.—By the <i>Paris</i> =Southampton:	
Reimers & Meyer	12,500
Total East Indian for August	253,100
Total for July	305,400
Total for June	241,100
Total for May	118,900
Total for April	451,000
Total for March	487,300
Total for February	1,000,000
Total for January	28,800

RECAPITULATION.

Pará-direct imports	766,500
Pará-via Europe	28,000
Centrals	259,101
Africans	524,400
East Indian	253,100
Total at New York for August	1,831,101
Total for July	1,686,356
Total for June	1,788,070
Total for May	2,971,400
Total for April	3,142,672
Total for March	4,858,383
Total for February	3,060,151
Total for January	4,038,229

BOSTON ARRIVALS.

AUG. 1.—By the <i>Sagamore</i> =Liverpool:	
Reimers & Meyer—Africans	5,000
AUG. 4.—By the <i>Catalonia</i> =Liverpool:	
George A. Alden & Co.—Africans	22,300
AUG. 4.—By the <i>Carlisle City</i> =London:	
George A. Alden & Co.—East India	96,200
Reimers & Meyer—East India	6,000
AUG. 4.—By the <i>Wentmore</i> =London:	
Reimers & Meyer—East India	75,000
George A. Alden & Co.—East India	36,100
AUG. 4.—By the <i>St. Ronans</i> =London:	
George A. Alden & Co.—East India	67,500
AUG. 6.—By the <i>Cambrian</i> =Liverpool:	
George A. Alden & Co.—Africans	5,300
AUG. 10.—By the <i>Gallia</i> =Liverpool:	
George A. Alden & Co.—East India	9,400
George A. Alden & Co.—Africans	2,700
AUG. 12.—By the <i>Hindon</i> =London:	
George A. Alden & Co.—East India	34,900
AUG. 14.—By the <i>Baltimore</i> =London:	
George A. Alden & Co.—East India	11,700
AUG. 19.—By the <i>Europe</i> =London:	
George A. Alden & Co.—East India	3,700
AUG. 22.—By the <i>Scotia</i> =Hamburg:	
George A. Alden & Co.—Africans	13,200
AUG. 24.—By the <i>Seythia</i> =Liverpool:	
George A. Alden & Co.—East India	8,200
AUG. 30.—By the <i>Sachem</i> =Liverpool:	
Boston Rubber Shoe Co.—Africans	12,300
Reimers & Meyer—Africans	4,800
Total at Boston for August	413,900

NEW ORLEANS.

AUGUST.	
FOUNDS.	VALUE.
Nicaragua	24,143 \$9,811

BALATA BELTING IN GERMANY.

ONE result of the recent publication, in the Dresden *Gummi-Zeitung*, of a series of articles on rubber belting, has been to elicit from a German manufacturer a communication which appears in our contemporary under the heading "Which is the Best?—German Balata Belts versus American Rubber Belts." Following is a quotation:

"We have read with interest the various articles on American rubber belts which you have given for some time, but cannot concede that the Americans possess in their rubber belt anything superior to our German Balata belt. Although it must be admitted that the good Balata belt has only become known recently, it is nevertheless true that Balata belts perform all that is required of them better than the American rubber belt. As you correctly stated in your issue, No. 17, June 1, it is advisable in all instances to adhere to the thin belts, not heavier than 7 millimeters ($=0.276$ inch) or one thickness of leather, and to increase the width in proportion to the power they are required to transmit. We have succeeded in making our German Balata belt so strong as to show a tensile strength of 24,000 kilograms ($=52,910$ pounds) in a belt 400 mm. ($=15.74$ inches) in width, and a thickness of 7 mm., or 600 kilos. per square centimeter, which proves it to be three times as strong as the 7-mm. leather belt. [Here is introduced a letter from an alleged authoritative source in regard to the strength of the manufacturer's Balata "elevator girths."]

"Large quantities of our Balata belt have lately been exported to England. Even Englishmen confess that German Balata belts are superior to the rubber belts manufactured by them for the past fifteen years. Americans would be delighted to have our Balata belts were this not made impossible by the high protective tariff which raises the cost of German Balata belts by more than 33 per cent."

By way of introduction to the above the editor of *Gummi-Zeitung* writes: "We publish this letter in the interest of the good cause just as willingly as all former articles on that subject. We should sincerely regret it if, to the battle 'Rubber versus Leather,' another warring element—'Rubber versus Balata'—should be added. We do not believe that that is the intention of the firm now writing to us, but take it for granted that the emphasis is to be placed on the adjectives '*German versus American*.' We desire to state here that it is not our aim, nor has it ever been, to oppose the American rubber belting. Our object has simply been to point out the excellence which will have to be imitated, or rather surpassed, by the German industry to successfully place a concurrent article upon the market."

THE Portuguese were probably the first to appreciate the usefulness of India-rubber in the waterproofing of articles for wear. It is related that in 1775 the king of that country, Don José, sent several pairs of his royal boots to Pará, in order that they might be coated with caoutchouc.

Free Want Department.

WANTED.—Position in a rubber clothing factory by a man who is capable of acting as superintendent of proofing department but who is desirous of securing any position to get a start in this country. Address, P. R. W., care of INDIA RUBBER WORLD. (July.)

WANTED.—By a chemist well acquainted with the rubber business, a position in a rubber factory. The best of references given. Address, H., care of INDIA RUBBER WORLD. (July.)

WANTED.—By a man of thirty with nearly fifteen years' experience, a position with a rubber factory or large jobbing house, can furnish best of references. Address, D, care of INDIA RUBBER WORLD. (July.)

FOR SALE.—A quantity of hard rubber turnings. S. B. Brown, Wappingers Falls, N. Y. (July.)

WANTED.—Man to take entire charge of druggist sundries department in large rubber works. Must have large experience and be perfectly competent. Address, "A" P. O. Box 6783, Boston, Mass. (July.)

WANTED.—Second hand devulcanizer in good condition, about 12 inches by 36 inches. State lowest price. Address, Devulcanizer, care INDIA RUBBER WORLD. (July.)

WANTED.—By a house manufacturing the highest grades of druggists' sundries and stationers' goods, a traveling salesman. Address, "C. R.," care INDIA RUBBER WORLD. (July.)

WANTED.—3 tons of elastic thread waste. Address with sample and price, William Somerville's Sons, 62 and 64 William St., New York City. (July.)

WANTED.—A man accustomed to the mixing and milling of rubber to go to Canada. Good wages. Address, R., INDIA RUBBER WORLD. (July.)

A COMPETENT MAN desires position as foreman or superintendent with pneumatic tire manufacturer. Can compound for tire stock if required. Address "Superintendent," care of INDIA RUBBER WORLD. (July.)

A SALESMAN thoroughly familiar with every detail of the business desires an agency or more especially a consignment of mechanical rubber goods sundries or clothing for Colorado and its surroundings. The advertiser has an extensive trade in this country and can give the highest references and bond if necessary for the faithful performance of any contract made. Address, S. J. G., care INDIA RUBBER WORLD. (June.)

FOR SALE.—Devulcanizer, 3 ft. by 12 ft. with skeleton truck 12 ft. long, nearly new and in first class condition. An upright boiler 9' by 2' 6" with 24-inch tubes. This boiler was used only 18 months and is in first class condition. Address, I. B. Kleinert Rubber Works, College Point, L. I. (May.)

POSITION WANTED.—By an A. No. 1 salesman. Have sold nearly everything made of rubber and am known to the trade in twenty States. First class references. Address, "Hustler," care of INDIA RUBBER WORLD. (June.)

FOR SALE.—Two English Spreaders in perfect condition, also one rubber washer 9x18. Price reasonable. Address, J. J. M., INDIA RUBBER WORLD. (June.)

WANTED.—A salesman for mechanical rubber goods for New York City. Address, "Bicycle," INDIA RUBBER WORLD. (June.)

WANTED.—An experienced hard rubber turner. Steady position. Apply Davidson Rubber Co., Charlestown Dist., Boston, Mass. (June.)

PARTIES wishing a select line of rubber compounds for all mechanical goods will find it to their advantage to address O. B., care of INDIA RUBBER WORLD. (Aug.)

WANTED.—A position as superintendent or foreman. Am thoroughly acquainted with the rubber business, was fifteen years with the Silvertown Rubber Co., London, England; can manufacture golf balls, wagon and bicycle tires, inner tubes and stems, and other mechanical rubber goods, having splendid compounds for all. Address W. T. D., Campello, Mass. (Aug.)

FOR SALE.—Vulcanizer 13 ft. x 8 ft. with truck and pan, tubing machine (Royle No. 1), 20x22 press, also a lathe; all new and in good order. Address A. P. Z., INDIA RUBBER WORLD Office. (Aug.)

SALESMAN, with experience east and West, wants position with first-class druggist sundry house. A 1 reference; thoroughly posted in line and with the trade. Address J. W. V. P., care of INDIA RUBBER WORLD. (Aug.)

AN engineer and machinist capable of taking entire charge of steam plant and of building all machinery for rubber factory desires position. Can furnish best of references, including last employers. Address, A. A. B., care of INDIA RUBBER WORLD. (Aug.)

POSITION WANTED.—By a man who thoroughly understands mixing, compounding, and calendering fine rubber goods. Have ten years experience in the druggist sundry, and specialties business, and am considered a first-class man. Address, "Henry," care of INDIA RUBBER WORLD. (Sept.)

WANTED.—Position by a man experienced in the manufacture and sale of rubber goods. Address, "Experience," care of INDIA RUBBER WORLD. (Sept.)

A COMPETENT CALENDER man desires position. Can compound and run all bicycle stock. Also thoroughly understands the manufacture of pneumatic tires. "Calender," care of INDIA RUBBER WORLD. (Sept.)

WANTED.—Sole calender and heel press for cash. Address, with description and price, T. S. V., 22 Pitt street, Boston, Mass. (Sept.)

YOUNG MAN, age 19, with 4 years experience and A 1 references, desires position in rubber clothing house. Address, Henry Menzel, 516 Washington street, Hoboken, N. J. (Sept.)

WANTED.—Two or three experienced hard rubber turners, those who are used to fountain pen work preferred. Apply to or address H. P. & E. Day, Seymour, Conn. (Sept.)

WANTED.—A good calender man, one used to ranning tire stock. Spaulding & Pepper Co., Chicopee Falls, Mass. (Sept.)

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